

VSP 516S



User Manual

(This User Manual applies to VSP 516 and VSP 516S!)

VSP 516S-User Manual

Thank you for choosing our products!

In order to allow you to learn how to use the video processor quickly, we bring you the detailed user manual. You can read the introduction and directions before using the video processor, please read all the information we provide carefully to use our products correctly.

Notice

We provide this manual “as is” without warranty of any kind, no matter expressed or implied, including but not limited to the implied warranties or merchantability and fitness for a particular purpose. We may make improvements or changes to the products and the programs described in this publication at any time without notice.

This publication would contain technical inaccuracies or typographical errors. Changes are periodically made to the information in this publication; these changes are incorporated in new editions of this publication.

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and radiates radio frequency energy and, if not installed or used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference, in which case the user will be responsible for correcting any interference.

Guarantee and Compensation

We provide a guarantee related to perfect manufacturing as part of the legally stipulated terms of guarantee. On receipt, the purchaser must immediately inspect all delivered goods for damage incurred during transportation, as well as for material and manufacturing faults. Please complain to us by written notice.

The period of guarantee begins from the date of transfer of risks, in the case of special systems and software on the date of commissioning, at latest 30 days after the transfer of risks. In the event of justified notice of compliant, we can repair the fault or provide a replacement at its own discretion within an appropriate period. If this measure proves to be impossible or unsuccessful, the purchaser can demand a reduction in the purchase price or cancellation of the contract. All other claims, in particular those relating to compensation for direct or indirect damage, and also damage attributed to the operation of software as well as to other service provided by us, being a component of the system or independent service, will be deemed invalid provided the damage is not proven to be attributed to the absence of properties guaranteed in writing or due to the intent or gross negligence or part of our company.

If the purchaser or a third party carries out modifications or repairs on goods delivered by our company, or if the goods are handled incorrectly, in particular if the systems are commissioned operated incorrectly or if, after the transfer of risks, the goods are subject to influences not agreed upon in the contract, all guarantee claims of the purchaser will be rendered invalid. Not included in the guarantee coverage are system failures which are attributed to programs or special electronic circuitry provided by the purchaser, e.g. interfaces. Normal wear as well as normal maintenance are not subject to the guarantee provided by us either.

The environmental conditions as well as the servicing and maintenance regulations specified in this manual must be complied with the customer.

Operators Safety Summary

The general safety information in this summary is for operating personnel.

Do Not Remove Covers or Panels

There are no user-serviceable parts within the unit. Removal of the top cover will expose dangerous voltages. To avoid personal injury, do not remove the top cover. Do not operate the unit without the cover installed.

Power Source

This product is intended to operate from a power source that will not apply more than 230 volts rms between the supply conductors or between both supply conductor and ground. A protective ground connection by way of grounding conductor in the power cord is essential for safe operation.

Grounding the Product

This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting to the product input or output terminals. A protective-ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Use the Proper Power Cord

Use only the power cord and connector specified for your product. Use only a power cord that is in good condition. Refer cord and connector changes to qualified service personnel.

Use the Proper Fuse

To avoid fire hazard, use only the fuse having identical type, voltage rating, and current rating characteristics. Refer fuse replacement to qualified service personnel.

Do Not Operate in Explosive Atmospheres

To avoid explosion, do not operate this product in an explosive atmosphere.

Terms in This Manual and Equipment Marking



WARNING

Highlight an operating procedure, practice, condition, statement, etc, which, if not strictly observed, could result in injury or death of personnel.

Note

Highlights an essential operating procedure, condition or statement.
--



CAUTION

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Amendment Records

The table below lists the changes to the Video Processor User Manual.

Format	Time	ECO#	Description	Principal
V1.0	2013-02-07	0000#	Release	BIN
V1.1	2013-03-25	0001#	1. Menu update. 2. Change the Front and Back Panel. 3. Add "How to Connect Upper Monitor by LAN Interface?". 4. Add "Mainboard Program Update".	Vira
V1.2	2013-05-28	0002#	1. Menu update. 2. Change the Back Panel. 3. Update Software. 4. Add "How to Set Up the Playlist". 5. Add "How to Achieve Multiple Cascade". 6. Add "Common Questions and Solutions" items. 7. Add "Installing an Optional SDI Input Board".	Vira
V1.3	2013-08-01	0003#	Change the front panel	Vira

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1. Brief Introduction

This chapter is designed to introduce you to the VSP 516S User Manual.
Areas to be covered are:

- [Chapter Structure](#)
- [How to Use The Manual](#)
- [Terms and Definitions](#)
- [System Overview](#)
- [Application Questions](#)

1. Brief Introduction

Chapter Structure

Chapter Structure

The following chapters provide instructions for all aspects of VSP 516S operations.

Chapter 1 [Brief Introduction](#)

Chapter 2 [Hardware Orientation](#)

Chapter 3 [Hardware Installation](#)

Chapter 4 [Menu Orientation](#)

Chapter 5 [Communication Software Guideline](#)

Chapter 6 [System Setup and Operations](#)

Chapter 7 [Common Questions and Solution](#)

Appendix A [Specification](#)

Appendix B [Software Upgrade](#)

1. Brief Introduction

How to Use The Manual

How to Use the Manual

Followings are important tips for streamlining your use of this User Manual in its electronic “PDF” form.

Navigation

Use Acrobat Reader’s “bookmarks” to navigate to the desired location. All chapter files have the same bookmark structure for instant navigation to any section. Please note:



- Extensive hyperlinks are provided within the chapters.
- Use Acrobat’s “**Go to Previous View**” and “**Return to next View**” buttons to trace your complete navigational path.
- Use the “**Previous Page**” and “**Next Page**” buttons to go to the previous or next page within a file.
- Use Acrobat’s extensive search capabilities, such as the “**Find**” tool and “**Search Index**” tool to perform comprehensive searches as required.

Table of Contents and Index

Use the Table of Contents bookmarks to navigate a desired topic. Click any item to instantly jump to that section of the guide. You can also use the **Index** to jump to specific topics within a chapter. Each page number in the **Index** is a hyperlink.

General Operations

To ensure trouble-free operation, please follow all procedures as listed below:

- For detailed installation instructions, refer to chapter 3 “Hardware Installation” on page 40.
- For communication software control guide, refer to Chapter 5, “Communication Software Control Guide” on page 56.
- For system setup and operations, refer to Chapter 6, “System Setup and Operations” on page 87.

1. Brief Introduction

Terms and Definitions

Term and Definitions

The following terms and definitions are used throughout this guide.

- **“ASCII”**: American Standard for Information Interchange. The standard code consisting of 7-bit coded characters (8 bits including parity check) used to exchange information between data processing systems, data communication systems, and associated equipment. The ASCII set contains control characters and graphic characters.
- **“Aspect ratio”**: The relationship of the horizontal dimension to the vertical dimension of an image. In viewing screens, standard TV is 4:3, or 1.33:1; HDTV is 16:9, or 1.78:1. Sometimes the “:1” is implicit, making TV = 1.33 and HDTV = 1.78.
- **“AV”**: Audio visual or audio video.
- A **“Background”** is an unscaled source, typically originating from a computer. A background source appears at the system’s lowest priority — visually in back of all other sources.
- **“Baudrate”**: Named of J.M.E. Baudot, the inventor of the Baudot telegraph code. The number of the electrical oscillations per second, called baud rate. Related to, but not the same as, transfer rate in bits per second (bps).
- **“Blackburst”**: The video waveform without the video elements. It includes the vertical sync, horizontal sync, and the chroma burst information. Blackburst is used to synchronize video equipment to align the video output. One signal is normally used to set up an entire video system or facility. Sometimes it is called House sync.
- **“BNC”**: Bayonet Neill-Concelman. A cable connector used extensively in television and named for its inventors. A cylindrical bayonet connector that operates with a twist-locking motion. To make the connection, align the two curved grooves in the collar of the male connector with the two projections on the outside of the female collar, push, and twist. This allows the connector to lock into place without tools.
- **“Brightness”**: Usually refers to the amount or intensity of video light produced on a screen without regard to color. Sometimes called “black level.”
- **“CAT 5”**: Category 5. Describes the network cabling standard that consists of four unshielded twisted pairs of copper wire terminated by RJ-45 connectors. CAT 5 cabling supports data rates up to 100 Mbps. CAT 5 is based on the EIA/TIA 568 Commercial Building Telecommunications Wiring Standard.
- **“Color bars”**: A standard test pattern of several basic colors (white, yellow, cyan, green, magenta, red, blue, and black) as a reference for system alignment and testing. In NTSC video, the most commonly

1. Brief Introduction

Terms and Definitions

- Used color bars are the SMPTE standard color bars. In PAL video, the most commonly used color bars are eight full field bars. In the computer, the most commonly used color bars are two rows of reversed color bars.
- **“Color burst”**: In color TV systems, a burst of sub carrier frequency located on the back porch of the composite video signal. This serves as a color synchronizing signal to establish a frequency and phase reference for the chroma signal. Color burst is 3.58 MHz for NTSC and 4.43 MHz for PAL.
- **“Color temperature”**: The color quality, expressed in degrees Kelvin (K), of a light source. The higher the color temperature, the bluer the light. The lower the temperature, the redder the light. Benchmark color temperature for the A/V industry includes 5000°K, 6500°K, and 9000°K.
- **“Contrast ratio”**: The ratio of the high light output level divided by the low light output level. In theory, the contrast ratio of the television system should be at least 100:1, if not 300:1. In reality, there are several limitations. In the CRT, light from adjacent elements contaminate the area of each element. Room ambient light will contaminate the light emitted from the CRT. Well-controlled viewing conditions should yield a practical contrast ratio of 30:1 to 50:1.
- **“DVI”**: Digital Visual Interface. The digital video connectivity standard that was developed by DDWG (Digital Display Work Group). This connection standard offers two different connectors: one with 24 pins that handles digital video signals only, and one with 29 pins that handles both digital and analog video.
- **“EDID”**: Extended Display Identification Data – EDID is a data structure used to communicate video display information, including native resolution and vertical interval refresh rate requirements, to a source device. The source device will then output the optimal video format for the display based on the provided EDID data, ensuring proper video image quality. This communication takes place over the DDC – Display Data Channel.
- **“Ethernet”**: A Local Area Network (LAN) standard officially known as IEEE 802.3. Ethernet and other LAN technologies are used for interconnecting computers, printers, workstations, terminals, servers, etc. within the same building or campus. Ethernet operates over twisted pair and over coaxial cable at speeds starting at 10Mbps. For LAN interconnectivity, Ethernet is physical link and data link protocol reflecting the two lowest layers of the OSI Reference Model.
- **“Frame”**: In interlaced video, a frame is one complete picture. A video frame is made up of two fields, or two sets of interlaced lines. In a film, a frame is one still picture of a series that makes up a motion picture.

1. Brief Introduction

Terms and Definitions

- **“Gamma”**: The light output of a CRT is not linear with respect to the voltage input. The difference between what you should have and what is actually output is known as gamma.
- **“HDMI” - High – Definition Multimedia Interface**: An interface used primarily in consumer electronics for the transmission of uncompressed high definition video, up to 8 channels of audio, and control signals, over a single cable. HDMI is the de facto standard for HDTV displays, Blu-ray Disc players, and other HDTV electronics. Introduced in 2003, the HDMI specification has gone through several revisions.
- **“HDSDI”**: The high-definition version of SDI specified in SMPTE-292M. This signal standard transmits audio and video with 10 bit depth and 4:2:2 color quantization over a single coaxial cable with a data rate of 1.485 Gbit/second. Multiple video resolutions exist including progressive 1280x720 and interlaced 1920x1080 resolutions. Up to 32 audio signals are carried in the ancillary data.
- **“JPEG” (Joint photographic Expects Group)**: Commonly used method of loss compression for photographic images using a discreet cosine transfer function. The degree of compression can be adjusted, allowing a selectable tradeoff between storage size and image quality. JPEG typically achieves 10:1 compression with little perceptible loss in image quality. Produces blocking artifacts.
- **“MPEG”**: Motion Picture Expect Group. A standard committee under the auspices of the International Standards Organization working on algorithm standards that allows digital compression, storage and transmission of moving image information such as motion video, CD-quality audio, and control data at CD-ROM bandwidth. The MPEG algorithm provides inter-frame compression of video images and can have an effective compression rate of 100:1 to 200:1.
- **“NTSC”**: The color video standard used in North America and some other parts of the world created by the National Television Standards Committee in the 1950s. A color signal must be compatible with black-and-white TV sets. NTSC utilizes an interlaced video signals, 525 lines of resolution with a refresh rate of 60 fields per second (60 Hz). Each frame is comprised of two fields of 262.5 lines each, running at an effective rate of 30 frames per second.
- **“PAL”**: Phase Alternate Line. A television standard in which the phase of the color carrier is alternated from line to line. It takes four full pictures (8 fields) for the color-to-horizontal phase relationship to return to the reference point. This alternation helps cancel out phase errors. For this reason, the hue control is not needed on a PAL TV set. PAL, in many transmission forms, is widely used in Western Europe, Australia, Africa, the Middle East, and Micronesia. PAL uses 625-line,

1. Brief Introduction

Terms and Definitions

50-field (25 fps) composite color transmission system.

- **“Operator”**: Refers to the person who uses the system.
- **“PIP”**: Picture-in-Picture. A small picture within a larger picture created by scaling down one of the images to make it smaller. Each picture requires a separate video source such as a camera, VCR, or computer. Other forms of PIP displays include Picture-by-Picture (PBP) and Picture-with-Picture (PWP), which are commonly used with 16:9 aspect display devices. PBP and PWP image formats require a separate scaler for each video window.
- **“Polarity”**: The positive and negative orientation of a signal. Polarity usually refers to the direction or a level with respect to a reference (e.g. positive sync polarity means that sync occurs when the signal is going in the positive direction).
- **“RJ-45”**: Registered Jack-45. A connector similar to a telephone connector that holds up to eight wires used for connecting Ethernet devices.
- **“RS-232”**: An Electronic Industries Association (EIA) serial digital interface standard specifying the characteristics of the communication path between two devices using either DB-9 or DB-25 connectors. This standard is used for relatively short-range communication and does not specify balanced control lines. RS-232 is a serial control standard with a set number of conductors, data rate, word length, and type of connector to be used. The standard specifies component connection standards with regard to the computer interface. It is also called RS-232-C, which is the third version of the RS-232 standard, and is functionally identical to the CCITT V.24 standard.
- **“Saturation”**: Chroma, chroma gain. The intensity of the color, or the extent to which a given color in any image is free from white. The less white in a color, the truer the color or the greater its saturation. On a display device, the color control adjusts the saturation. Not to be confused with the brightness, saturation is the amount of pigment in a color, and not the intensity. Low saturation is like adding white to the color. For example, a low-saturated red looks pink.
- **“Scaling”**: A conversion of a video or computer graphic signal from a starting resolution to a new resolution. Scaling from one resolution to another is typically done to optimize the signal for input to an image processor, transmission path or to improve its quality when presented on a particular display.
- **“SDI”**: Serial Digital Interface. The standard based on a 270 Mbps transfer rate. This is a 10-bit, scrambled, polarity independent interface with common scrambling for both component ITU-R 601 and composite digital video and four channels of (embedded) digital audio.
- **“Seamless Switching”**: A feature found on many Extron video

1. Brief Introduction

Terms and Definitions

switchers. This feature causes the switcher to wait until the vertical interval to switch. This avoids a glitch (temporary scrambling) which normally is seen when switching between sources.

- **“SMPTE”**: Society of Motion Picture and Television Engineers. A global organization, based in the United States that sets standards for base band visual communications. This includes film as well as video and television standards.
- **“S-Video”**: A composite video signal separated into the luma (“Y” is for luma, or black and white information; brightness) and the chroma (“C” is an abbreviation for chroma, or color information).
- **“Sync”**: Synchronization. In video, sync is a means of controlling the timing of an event with respect to other events. This is accomplished with timing pulses to insure that each step in a process occurs at the correct time. For example, horizontal sync determines exactly when to begin each horizontal scan line. Vertical sync determines when the image is to be refreshed to start a new field or frame. There are many other types of sync in video system. (Also known as “sync signal” or “sync pulse.”)
- **“TCP/IP”**: Transmission Control Protocol/Internet Protocol. The communication protocol of the Internet. Computers and devices with direct access to the Internet are provided with a copy of the TCP/IP program to allow them to send and receive information in an understandable form.
- **“USB”**: Universal Serial Bus. USB was developed by seven PC and telecom industry leaders (Compaq, DEC, IBM, Intel, Microsoft, NEC, and Northern Telecom). The goal was easy plug-and-play expansion outside the box, requiring no additional circuit cards. Up to 127 external computer devices may be added through a USB hub, which may be conveniently located in a keyboard or monitor. USB devices can be attached or detached without removing computer power. The number of devices being designed for USB continues to grow, from keyboards, mice, and printers to scanners, digital cameras, and ZIP drives.
- **“VESA”**: Video Electronics Standards Association. A nonprofit number organization dedicated to facilitating and promoting personal computer graphics through improved standards for the benefit of the end-user. www.vesa.org
- **“VGA”**: Video Graphics Array. Introduced by IBM in 1987, VGA is an analog signal with TTL level separate horizontal and vertical sync. The video outputs to a 15-pin HD connector and has a horizontal scan frequency of 31.5 kHz and vertical frequency of 70 Hz (Mode 1, 2) and 60 Hz (Mode 3). The signal is non-interlaced in modes 1, 2, and 3 and interlaced when using the 8514/A card (35.5 kHz, 86 Hz) in mode 4. It

1. Brief Introduction

Terms and Definitions

has a pixel by line resolution of 640×480 with a color palette of 16 bits and 256,000 colors.

- **“YCrCb”**: Used to describe the color space for interlaced component video.
- **“YPbPr”**: Used to describe the color space for progressive-scan (non-interlaced) component video.

1. Brief Introduction

System Overview

System Overview

AVDSP Series use the latest patent of video processing technical for the high image display and Any in Any out switch. It can accept all kinds of video signals including CVBS、S-Video、YCbCr、YPbPr、RGBHV (VGA)、DVI-D、HDMI、3G SDI and DP (Displayport).

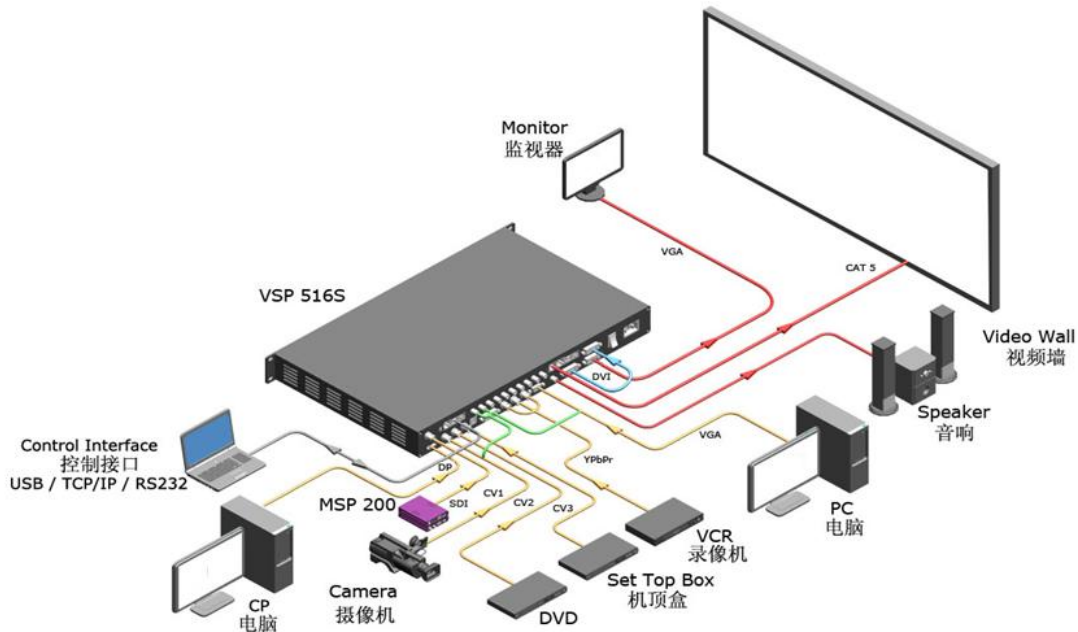
1. Brief Introduction

Application Questions

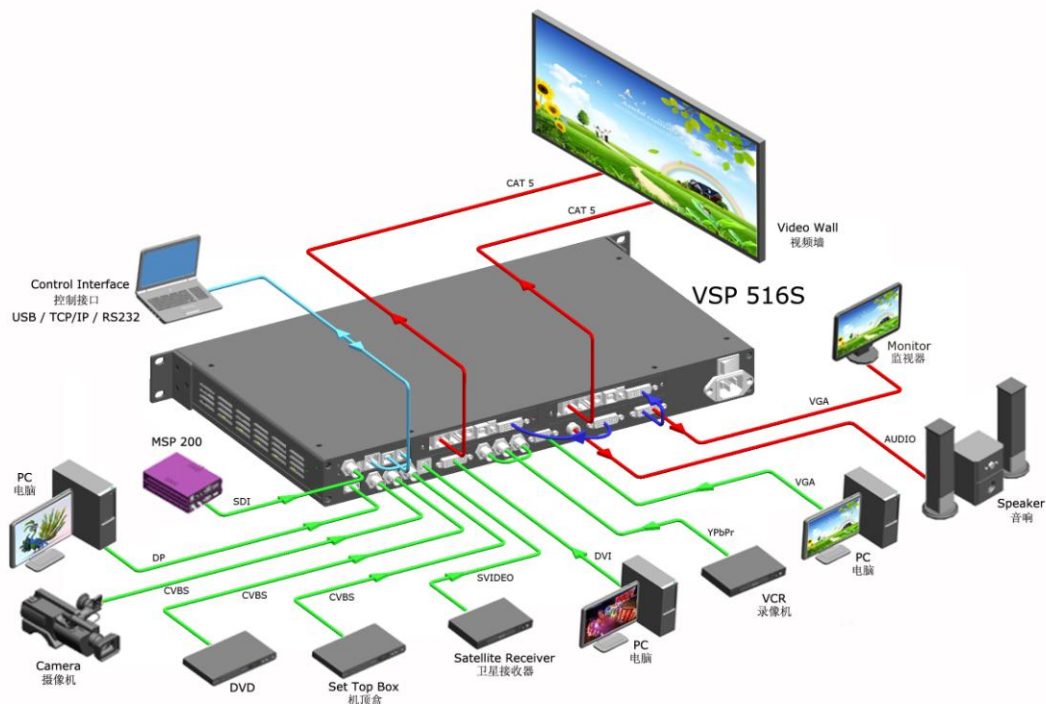
Application Questions

We offer solutions to demand technical problems. Any application questions, or required further information, please contact with our Customer Support Engineers.

Version 1: VSP 516S with audio:



Version 2: VSP 516S with two sending cards:



2. Hardware Orientation

In This Chapter

This chapter provides detailed information about the VSP 516S hardware. The following topics are discussed:

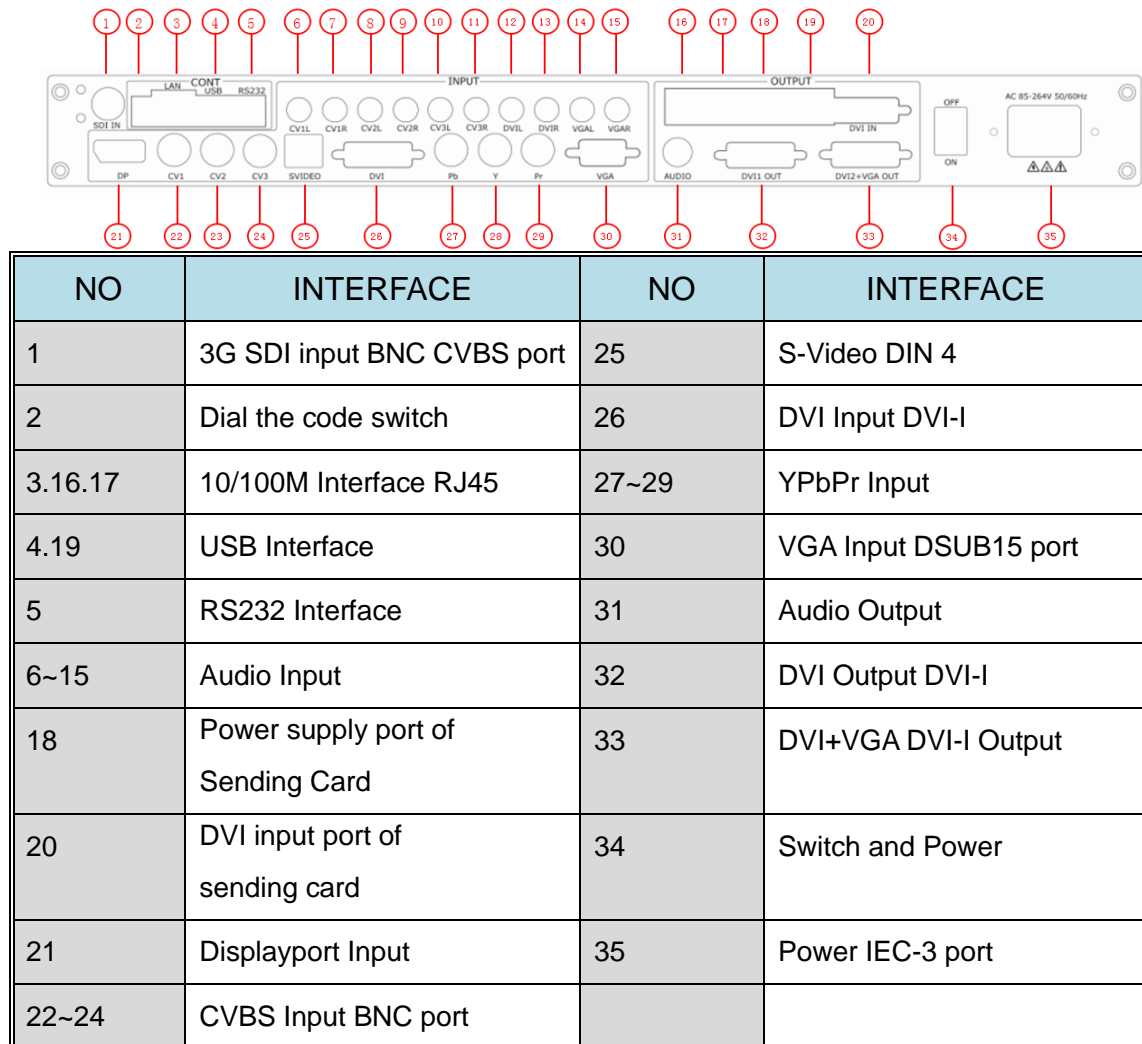
- [VSP 516S Back Panel](#)
- [VSP 516S Front Panel](#)

2. Hardware Orientation

VSP 516S Back Panel

VSP 516S Back Panel

At present there are 2 versions of VSP 516S. The figure below illustrates the professional interface and control signals of VSP 516S back panel with audio.



CONT Interface

2. Dial Switch

3. 10/100M UDP Interface

4. USB Interface

Remote communication device controls interface, and is used to connect the computer.

2. Hardware Orientation

VSP 516S Back Panel

5. RS232 Interface

It is used to connect the computer.

INPUT Interface

It includes 1 SDI input, 3 CVBS (BNC port), 1 S-video, 1 DVI-I(compatible with the HDMI input), 1 VGA (DB15port), 1 Displayport, 3 YPbPr, 10 Audio Input.

6~15: Audio Input

Audio Input port: It can connect the audio signals of the DVD player, hardware player, and digital box.

1: 3G SDI Input

Can receive video signal from HD player, and HD camera, connect interface 16 via 75 ohms BNC port. Connect LED screens via network cable.

21: Displayport Input

Input the video signal from HD player, computer, input signal via displayport interface.

22~24: CVBS Input

CVBS input. Can receive standard video signal from players, cameras etc. Input supports resolution 480i and 576i via BNC. Support standards include: PAL, NTSC and SECAM.

25: S-Video DIN 4

S-Video DIN 4, used to input S-Video signal (PAL, NTSC, SECAM compatible).

26: DVI Input

DVI input interface: Input the video signal from computer, DVI signal generator. Connect to the same DVI interface on VSP 516S;

(This Connection does not support hot-plugging)

2. Hardware Orientation

VSP 516S Back Panel

Note

DVI-I is compatible with HDMI.

27~29: YPbPr Input

R/Pr G/Y B/Pb BNC, used to support SD/HD analog video input, up to 1080p60;

30: VGA Input

VGA Interface input the video signal from HD player and Computer, etc. compatible with YPbPr signal, input signal via the DB15 interface.

OUTPUT

16.17: 10/100M Interface RJ45

Gigabit copper port, used to connect LED screen.

18: Power Supply Port of Sending Card

Power has been already supplied by video processor itself, no external power supply needed.

19: USB Control Port of Sending Card

20: DVI Input

Input the DVI out originating from other video processors.

(This DVI connector does not support hot-plugging)

31: AUDIO Output

It is used to access the speakers or audio power amplifier system. Can be connected with the DVI output interface video processor directly.

(This connector does not support hot-plugging)

32: DVI Output

Connect to the monitor or LED screen which has DVI interface

(This DVI connector does not support hot-plugging) .

33: DVI +VGA DVI Output

DVI +VGA output via DVI connector connect to the monitor or LED screen

2. Hardware Orientation

VSP 516S Back Panel

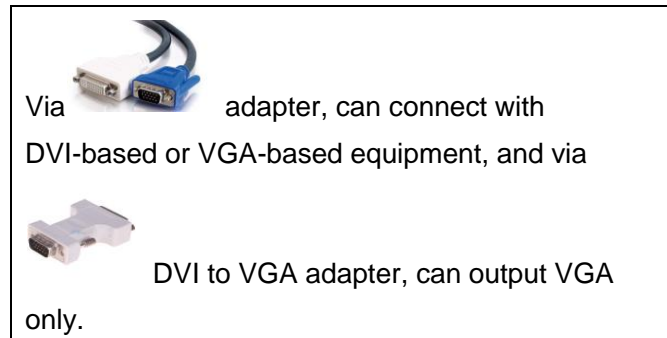
which has DVI interface.

(This DVI connector does not support hot-plugging) .

DVI +VGA, VGA output connector can be connected to monitor or projector

which has VGA interface.

Note



Switch and Power

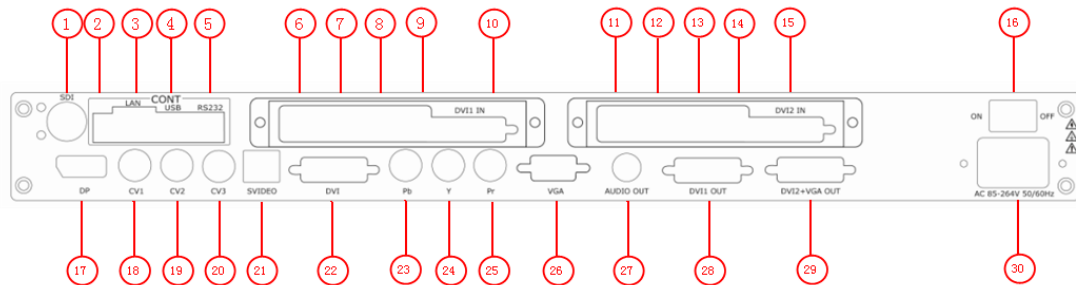
34.35: Power Interface and Switch

AC 85-264V 3.8A 50/60Hz IEC-3 Power Interface

2. Hardware Orientation

VSP 516S Back Panel

The figure below illustrates the professional interface and control signals of VSP 516S back panel with two sending cards.



NO	INTERFACE	NO	INTERFACE
1	3G SDI input BNC CVBS port	18~20	CVBS Input BNC port
2	Dial the code switch	21	S-Video DIN 4
3.6.7.11.12	10/100M Interface RJ45	22	DVI Input DVI-I
4.9.14	USB Interface	23~25	YPbPr Input
5	RS232 Interface	26	VGA Input DSUB15 port
8.13	Power supply port of Sending Card	27	Audio Output
10.15	DVI input port of sending card	28	DVI Output DVI-I
16	Switch	29	DVI+VGA DVI-I Output
17	Displayport Input	30	Power IEC-3 port

CONT Interface

2. Dial Switch

3. 10/100M UDP Interface

4. USB Interface

Remote communication device controls interface, and is used to connect the computer.

5. RS232 Interface

It is used to connect the computer.

2. Hardware Orientation

VSP 516S Back Panel

INPUT Interface

It includes 1 SDI input, 3 CVBS (BNC port), 1 S-video, 1 DVI-I(compatible with the HDMI input), 1 VGA (DB15port), 1 Displayport, 3 YPbPr Input.

1: 3G SDI Input

Can receive video signal from HD player, and HD camera, connect interface 16 via 75 ohms BNC port. Connect LED screens via network cable.

17: Displayport Input

Input the video signal from HD player, computer, input signal via displayport interface.

18~20: CVBS Input

CVBS input. Can receive standard video signal from players, cameras etc. Input supports resolution 480i and 576i via BNC. Support standards include: PAL, NTSC and SECAM.

21: S-Video DIN 4

S-Video DIN 4, used to input S-Video signal (PAL, NTSC, SECAM compatible).

22: DVI Input

DVI input interface: Input the video signal from computer, DVI signal generator. Connect to the same DVI interface on VSP 516S;

(This Connection does not support hot-plugging)

Note

DVI-I is compatible with HDMI.

23~25: YPbPr Input

R/Pr G/Y B/Pb BNC, used to support SD/HD analog video input, up to 1080p60;

26: VGA Input

2. Hardware Orientation

VSP 516S Back Panel

VGA Interface input the video signal from HD player and Computer, etc.
compatible with YPbPr signal, input signal via the DB15 interface.

OUTPUT

6.7.11.12: 10/100M Interface RJ45

Gigabit copper port, used to connect LED screen.

8.13: Power Supply Port of Sending Card

Power has been already supplied by video processor itself, no external power supply needed.

9.14: USB Control Port of Sending Card

10.15: DVI Input

Input the DVI out originating from other video processors.

(This DVI connector does not support hot-plugging)

27: AUDIO Output

It is used to access the speakers or audio power amplifier system. Can be connected with the DVI output interface video processor directly.

(This connector does not support hot-plugging)

28: DVI Output

Connect to the monitor or LED screen which has DVI interface

(This DVI connector does not support hot-plugging) .

29: DVI +VGA DVI Output

DVI +VGA output via DVI connector connect to the monitor or LED screen which has DVI interface.

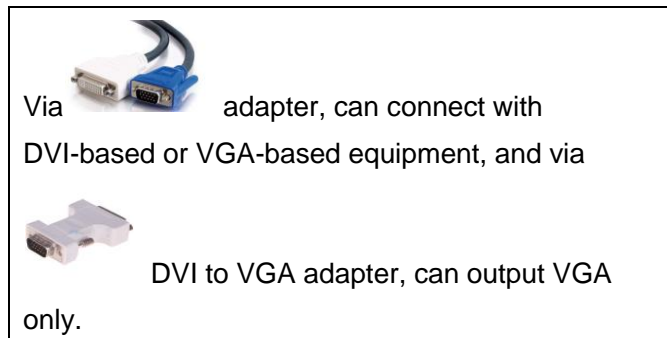
(This DVI connector does not support hot-plugging) .

DVI +VGA, VGA output connector can be connected to monitor or projector which has VGA interface.

2. Hardware Orientation

VSP 516S Back Panel

Note



Switch and Power

16.30: Power Interface and Switch

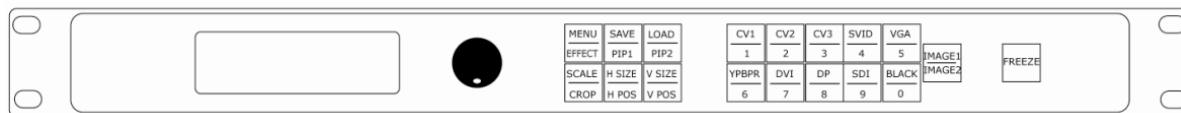
AC 85-264V 3.8A 50/60Hz IEC-3 Power Interface

2. Hardware Orientation

VSP 516S Front Panel

VSP 516S Front Panel

VSP 516S front panel is as following:



LCD Panel

Used to show button menu and menus for interactive communication.

Menu Buttons



MENU/EFFECT: Menu and Effect function multiplexing button.

Press it to enter **MENU** function, the panel shows **MENU** content, rotate and press the adjust knob to select MENU. Press again to reback the last Menu.

For details, please refer to [MENU](#).

Press the button again, and enter to **EFFECT** function, LCD panel shows the menu of EFFECT. Rotate the adjust knob and press to select the **EFFECT** mode.

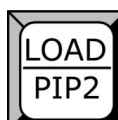


SAVE/PIP1: SAVE and PIP1 function multiplexing button.

Press it to enter **SAVE** mode, press the adjust knob to select save position.

Currently, it supports 10 saving modes. The figure: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 down of the buttons means SAVE1~10, you can press arbitrary button to save. And the LCD panel will show Finish after finish saving.

Press the button again, and enter to **PIP1** shortcut key function, user can also press the adjust knob to set PIP mode. Press the button again, and close PIP function.



LOAD/PIP2: LOAD and PIP2 function multiplexing button.

Press it to enter **LOAD** mode, press the adjust knob to select LOAD position.

Currently, it supports 10 loading modes. The figure: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 down of the buttons means LOAD SAVE1~10, you can press arbitrary button to load. And the LCD panel will show Finish after finish loading.

2. Hardware Orientation

VSP 516S Front Panel

Press the button again, and enter to **PIP2** shortcut key function, user can also press the adjust knob to set PIP mode. Press the button again, and close PIP function.



SCALE/CROP: SCALE and CROP setting multiplexing button.

Press the button to enter to SCALE mode.

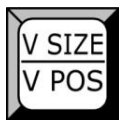
Press the button again to enter to CROP mode.



H SIZE/H POS: Width and horizontal position setting multiplexing button.

Press the button to enter to width setting.

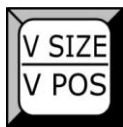
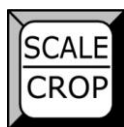
Press the button again to enter to horizontal position setting.



V SIZE/V POS: Height and vertical position setting multiplexing button.

Press the button to enter to height setting.

Press the button again to enter to vertical position setting.



Three keys combination use as following:

SCALE:

Press **SCALE/CROP** to enter to Scale setting. Press **H SIZE/H POS** to set the H Size, rotate the adjust knob can adjust the width of picture. Press **H SIZE/H POS** again, to enter to horizontal position setting, rotate the adjust knob can adjust the horizontal position. Press **V SIZE/V POS** to set the V Size, rotate the adjust knob can adjust the height of picture. Press **V SIZE/V POS** again, to enter to vertical position setting, rotate the adjust knob can adjust the vertical position.

CROP:

Press **SCALE/CROP** again to enter to Crop setting. Press **H SIZE/H POS**

2. Hardware Orientation

VSP 516S Front Panel

to set the H Size, rotate the adjust knob can adjust the width percentage.

Press **H SIZEH POS** again, to enter to horizontal position setting, rotate

the adjust knob can adjust the horizontal percentage. Press **V SIZEV POS**

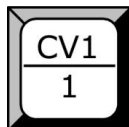
to set the H Size, rotate the adjust knob can adjust the height percentage.

Press **V SIZEV POS** again, to enter to vertical position setting, rotate the

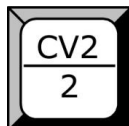
adjust knob can adjust the vertical percentage.

Note

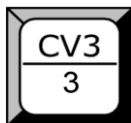
The percentage of CROP is the current output resolution percentage, after scale set full screen. Such as resolution is: 1024x768, set width as 50, set horizontal position as 0, height as 50, set vertical position as 0. That is scale the 1/4 picture of full screen at the top right corner as 1024x768 output.



CV1/1: CV1 signal source and SAVE 1 and Load 1 multiplexing button.



CV2/2: CV2 signal source and SAVE 2 and Load 2 multiplexing button.



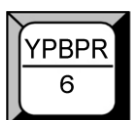
CV3/3: CV3 signal source and Save 3 and Load 3 multiplexing button.



SVID/4: SVideo signal source and Save 4 and Load 4 multiplexing button.



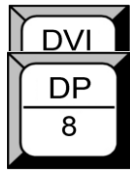
VGA/5: VGA signal source and Save 5 and Load 5 multiplexing button.



YPBPR/6: YPBPR signal source and Save 6 and Load 6 multiplexing button.

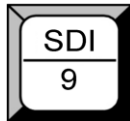
2. Hardware Orientation

VSP 516S Front Panel

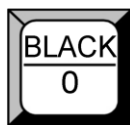


DVI/7: DVI signal source and Save 7 and Load 7 multiplexing button.

DP/8: Displayport signal source and Save 8 and Load 8 multiplexing button.



SDI/9: SDI signal source and Save 9 and Load 9 multiplexing button.



BLACK/0: Black and Save 10 and Load 10 multiplexing button.



IMAGE1/IMAGE2: IMAGEA and IMAGEB multiplexing button.



Freeze key, its LED light turns on, output screen freezes; press it again, its

LED light is out, and freeze is cancelled;

(Freeze→Live→Freeze).

Note

In PIP, both IMAGE1 and IMAGE2 are freeze.

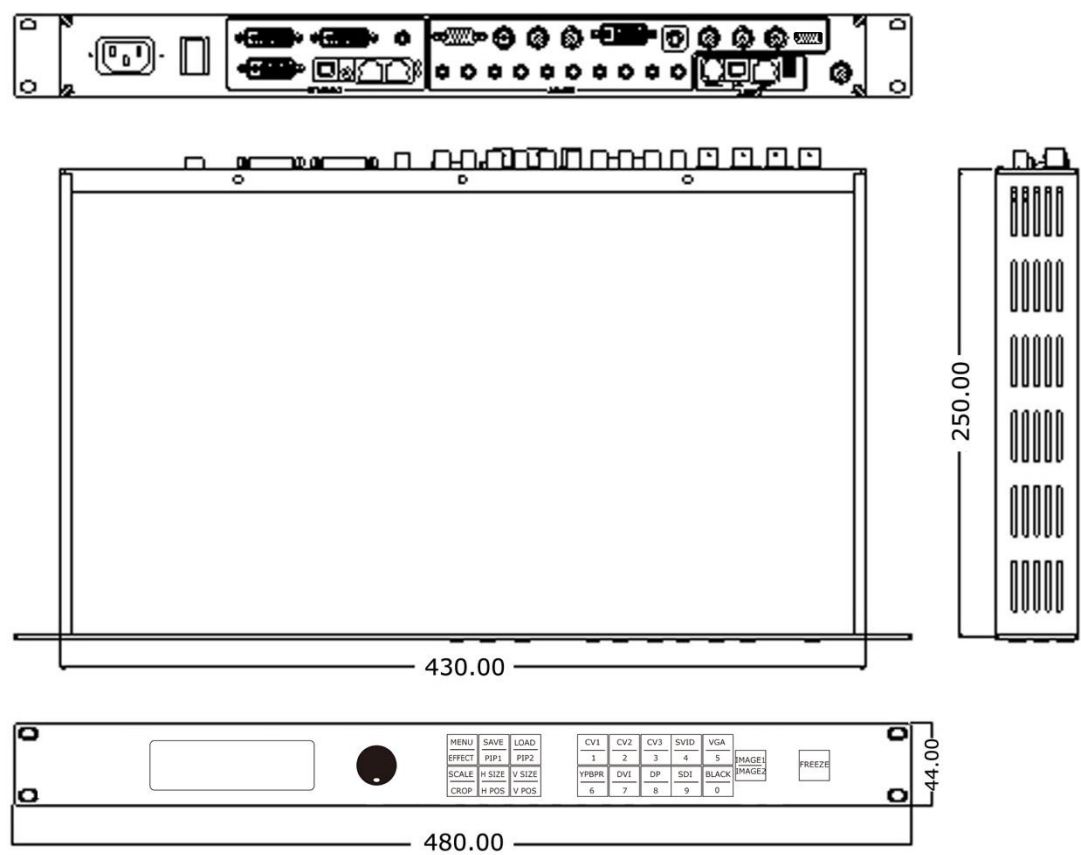
3. Hardware Installation

In This Chapter

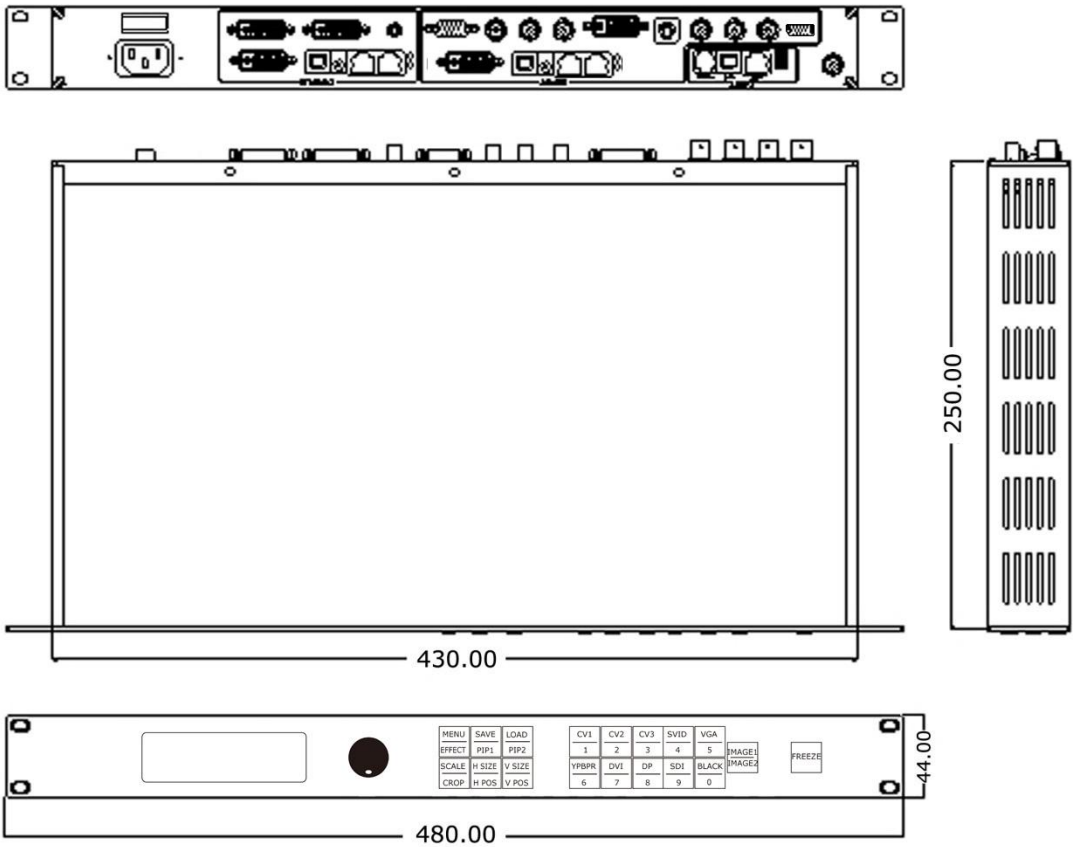
This chapter provides comprehensive installation instruction for VSP 516S hardware:

Following is the size of VSP 516S for your reference.

Version 1: VSP 516S with audio:



Version 2: VSP 516S with two sending cards:



Safety Precautions

For all VSP 516S processor installation procedures, please observe the following important safety and handling rules to avoid damage to yourself and the equipment.

- To protect users from electric shock, ensure that the chassis connects to earth via the ground wire provided in the AC power Cord.
- The AC Socket-outlet should be installed near the equipment and be easily accessible.

Unpacking and Inspection

Before opening VSP 516S process shipping box, inspect it for damage. If you find any damage, notify the shipping carrier immediately for all claims adjustments. As you open the box, compare its contents against the packing slip. If you find any shortages, contact your sales representative.

Once you have removed all the components from their packaging and checked that all the listed components are present, visually inspect the system to ensure there was no damage during shipping. If there is damage, notify the shipping carrier immediately for all claims adjustments.

Site Preparation

The environment in which you install your VSP 516S should be clean, properly lit, free from static, and have adequate power, ventilation, and space for all components.

4. Menu Orientation

In This Chapter

This chapter describes all VSP 516S processor menus, including how they are accessed, the functions that are available, and descriptions of each menu tree (in block diagram format).

The following topics are discussed:

- **MENU**
 - INPUT
 - OUTPUT
 - TRANSITION
 - AUDIO
 - SPLIT
 - SAVE SETUP
 - SYSTEM
 - LANGUAGE
 - FACTORY RESET

4. Menu Orientation

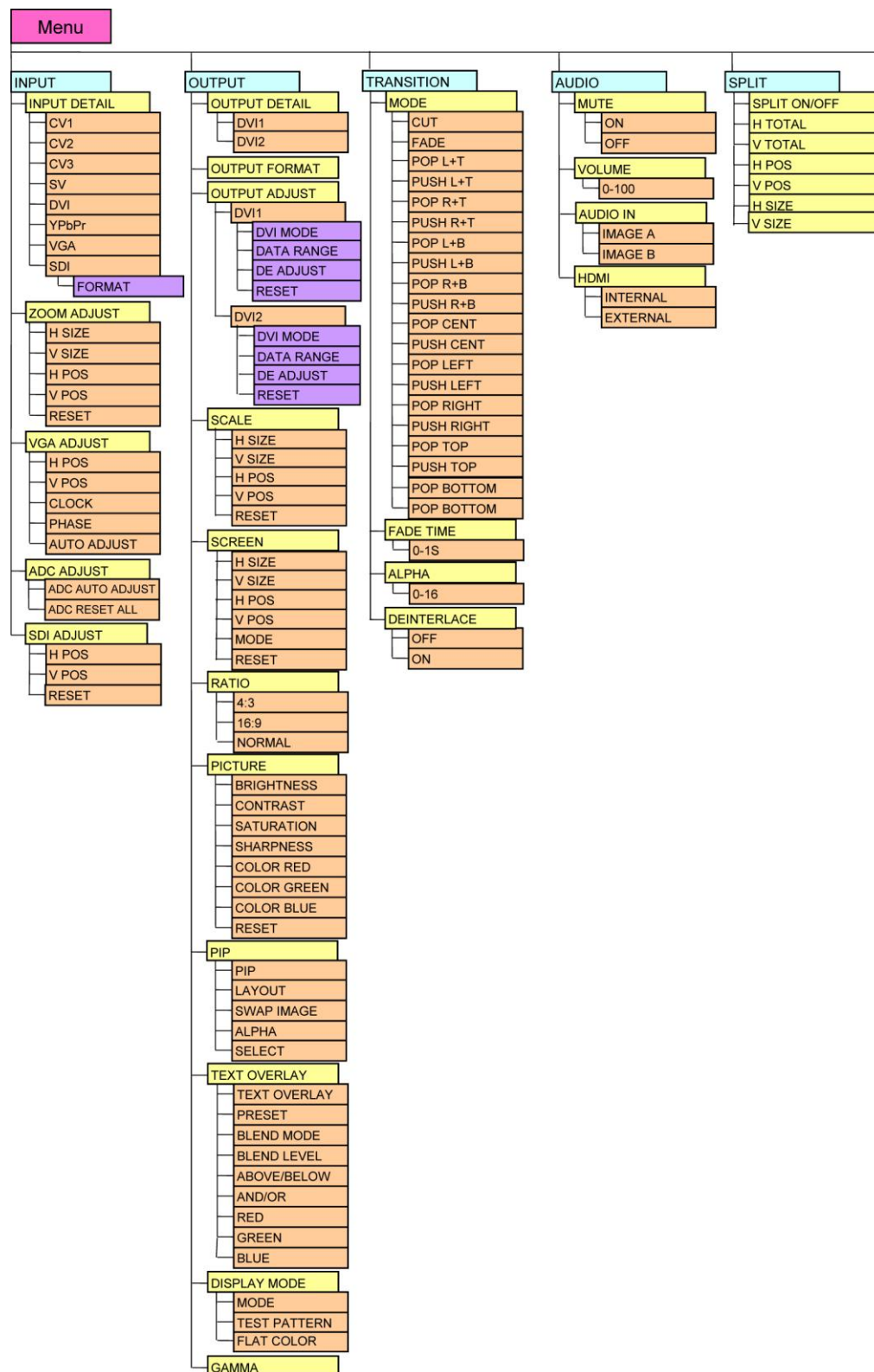
MENU

MENU

Press the **MENU** to main menu, main menu as shown below. Rotate the knob to select the menu item. ">" before the menu means it's in selected state. Press knob button to enter corresponding setting or view the menu.

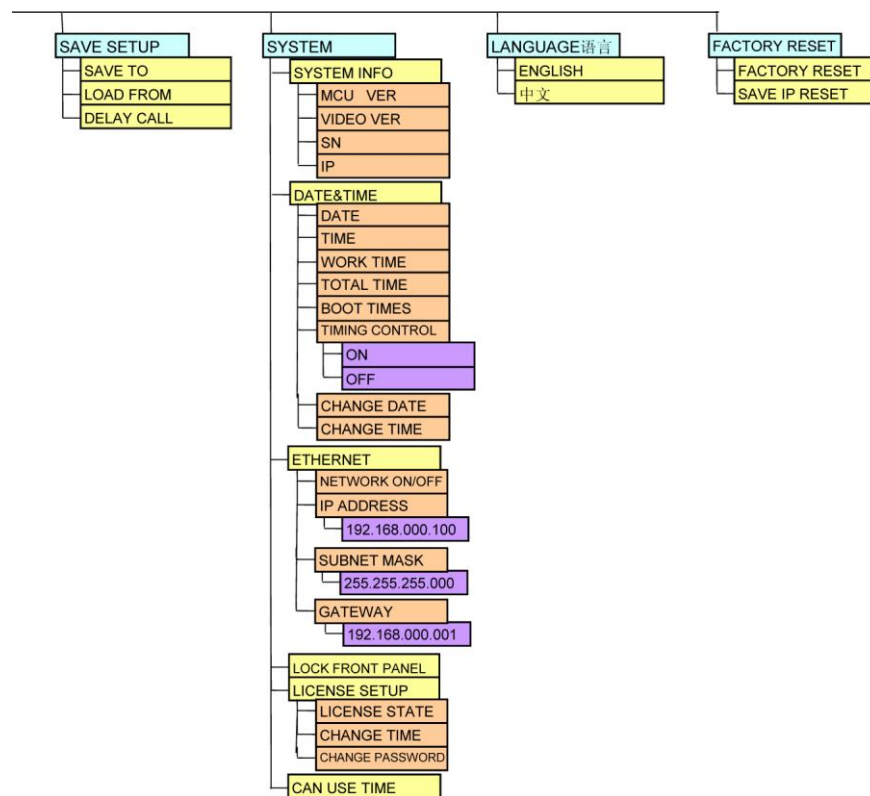
4. Menu Orientation

MENU



4. Menu Orientation

MENU



MENU---INPUT

Select INPUT, press it to confirm, show level 2 menus as follows:

INPUT DETAIL: Display input signal information, including CV1, CV2, CV3, SVIDEO, DVI, YPbPr, VGA, SDI.

ZOOM ADJUST: It can adjust the position and the scale, as following:

H SIZE: Width setting.

V SIZE: Height setting.

H Pos: Horizontal phase setting.

V Pos: Vertical phase setting.

RESET: If quality image distort by mistake in improper operation, it can be initialized operation to recover factory setting.

VGA ADJUST: Mainly aimed at H POS, V POS, CLOCK, PHASE when VGA input. It also can use the AUTO ADJUST to adjust.

ADC AUTO ADJUST: Mainly aim at the BRIGHTNESS to auto adjusting.

4. Menu Orientation

MENU

SDI ADJUST: Mainly aimed at H POS, V POS when SDI input. It also can use the AUTO ADJUST to adjust. If quality image distort by mistake in improper operation, it can be initialized operation to recover factory setting.

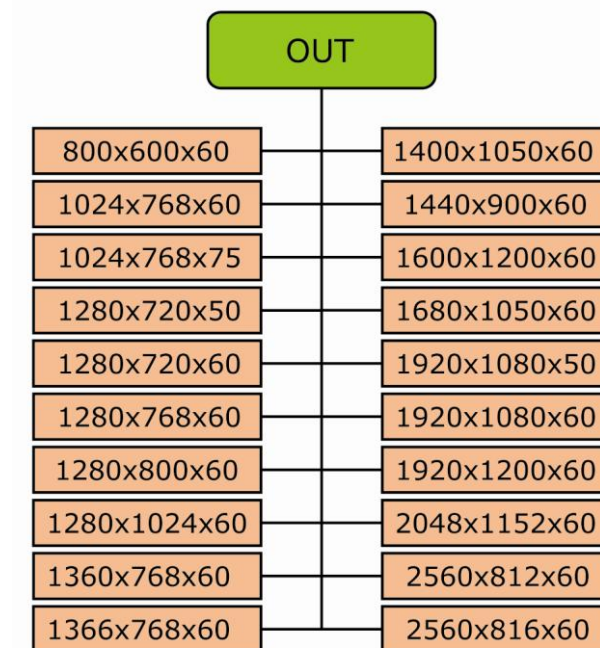
MENU --OUTPUT

Select OUTPUT, press it to confirm, show level 2 menus as follows:

OUTPUT DETAIL: Display output signal information, including DV1, DV2,

OUT FORMAT: Mainly display the current output signal and output resolution.

Users can choose different output formats by rotate the knob, this option includes 20 common output resolutions, shown as follow:



OUTPUT ADJUST: Output adjust menu, the sub-menu as following:

DVI1, setting as following:

DVI MODE: Can select HDMI agreement or DVI; by default is DVI output, When need HDMI signal output, choose HDMI.

DATE RANGE: DVI1 out range adjustment can choose RGB or YCBCR; among them the RGB adjusting range is between 0-255, YCBCR adjusting range from 16 to 235.

DE ADJUST: DE adjust, the sub-menu as following:

4. Menu Orientation

MENU

DE ON/OFF: Can choose to open or close, when choose open, it can be adjusted to DE, as follows:

H SIZE: Width setting;

V SIZE: Height setting;

H Pos: Horizontal phase setting;

V Pos: Vertical phase setting;

When the signal source of the screen appear black side, can use this function adjustment, make the image to full screen display.

RESET: If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

DVI2: Including DVI MODE, DATA RANGE, DE ADJUST, and RESET, same with DVI1.

SCALE: Scale menu as following:

H SIZE: Width setting.

V SIZE: Height setting.

H Pos: Horizontal phase setting.

V Pos: Vertical phase setting.

RESET: If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

Note

The SCALE/CROP button can also fulfill this setting.

SCREEN: Screen setting, user can change the screen through the digital setting parameters to easily change the screen size and position. Mainly used in the LED large screen users. Settings as follow:

H SIZE: Width setting;

V SIZE: Height setting;

H Pos: Horizontal phase setting;

V Pos: Vertical phase setting;

4. Menu Orientation

MENU

Mode: window mode, can scale the (Screen) and (Full) switch.

RESET: If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

RATIO: Proportional setting, press it, can realize the conversion between high and wide.

Normal: Original video proportion, 4:3 aspect ratios; 16:9 aspect ratios;

PICTURE: Picture setting, the sub-menu as following:

BRIGHTNESS: It can change the image color BRIGHTNESS via BRIGHTNESS Settings.

CONTRAST: It can change the image color CONTRAST via CONTRAST settings.

SATURATION: It can change the image color SATURATION via SATURATION Settings.

SHARPNESS: It can change the image color SHARPNESS via SHARPNESS Settings.

COLOR RED: It can change the image color Red via Red Settings.

COLOR GREEN: It can change the image color Green via Green Settings.

COLOR BLUE: It can change the image color Blue via Blue Settings.

RESET: If quality image distorts by mistake in improper operation, it can be initialized operation to recover factory setting.

Users can set according to their actual situation, this function mainly suitable for these very professional for image quality. Non-professionals are not suggesting above operations. If quality image distorted by mistake in improper operation, it can be initialized operation to recover factory setting.

The numerical range that needs adjusting is between 0-100. Press MENU to exit and return to higher level MENU.

PIP: PIP setting, press PIP and choose ON to set PIP mode.

LAYOUT: Can choose PIP layout, the corresponding results are as follows:

4. Menu Orientation

MENU

PIP L+T



PBP L+R



PBP T+B



SWAP IMAGE: It can set PIP to swap exchange, when choose ON, it can realize the main and sub-picture exchange.

ALPHA: Can set the image display transparency, regulating range between 0 - 16.

SELECT: Can choose to set the size or position of IMAGE A or IMAGE B individually.

Note

The IMAGE1/IMAGE2 button can also fulfill this setting.

TEXT OVERLAY: Text overlay function, settings as follows:

TEXT OVERLAY: Can select “ON” or “OFF”, OFF is the default state.

PRESET: Can preset value of the following functions, and total 13 modes:

User: User mode.

WhOnBk1: White On Black 1.

WhOnBk2: White On Black 2.

BkOnWh1: Black On White 1.

BkOnWh2: Black On White 2.

GrnOnBk1: Green On Black 1.

GrnOnBk2: Green On Black 2.

GrnOnWh1: Green On White 1.

GrnOnWh2: Green On White 2.

RedOnBk1: Red On Black 1.

4. Menu Orientation

MENU

RedOnBk2: Red On Black 2.

RedOnWh1: Red On White 1.

RedOnWh2: Red On White 2.

BLEND MODE: Blend mode, with two modes, "Mode 1" and " Mode 2".

Mode 1: Graphic content locate at the top and is non-transparent, background transparency is controlled by double-picture transparency;

Mode 2: Graphic content is controlled by double-picture transparency, the background is completely transparent;

BLEND LEVEL: Can set the image display transparency, regulating range between 0 - 16.

ABOVE/BELOW:

ABOVE: In image 2, if the pixel value is higher than the setting value, then the image is the graphic content pixel, otherwise, it is the graphic background pixel. It should combined with "AND/OR" conditions when judging.

BELOW: In image 2, if the pixel value is lower than the setting value, then the image is the graphic content pixel, otherwise, it is the graphic background pixel. It should combined with "AND/OR" conditions when judging.

AND/OR:

AND: All "Red, Green, Blue" value must meet ABOVE or BELOW conditions.

OR: Any one of "Red, Green, Blue" value should meet ABOVE or BELOW conditions.

RED: Red limit, cut-off point condition of ABOVE and BELOW condition in red channel, the range is 0 ~ 255.

GREEN: Green limit, cut-off point condition of ABOVE and BELOW condition in green channel, the range is 0 ~ 255.

BLUE: Blue limit, cut-off point condition of ABOVE and BELOW condition in

4. Menu Orientation

MENU

blue channel, the range is 0 ~ 255.

DISPLAY MODE:

MODE: Image mode selection, user can choose different output modes according to their requirement, such as: black, video image, freeze image, pure color image, test pattern.

Note

The FREEZE button can also fulfill this setting.

TEST PATTERN: Test pattern setting, rotate the knob, there are 1-66 kinds of modes for choose.

FLAT COLOR: When the output mode is pure color image, choose corresponding red, green and blue color value in this option to meet the practical needs.

GAMMA: Gamma setting, press it to adjust the image gamma value; Gamma values include: -1.2, -1.4, -1.6, 1, 1.2, 1.4, 1.6, sRGB;

MENU --- TRANSITION

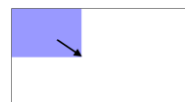
Choose the TRANSITION, press the knob to confirm, then the LCD screen displays the level 2 menu as following:

MODE: Switch mode, including the following modes:

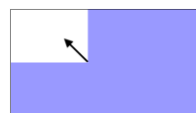
CUT: Seamless switching.

FADE: Fade in fade out.

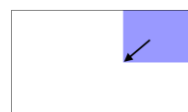
POP L+T: Upper left corner pop up



PUSH L+T: Upper left corner push



POP R+T: Upper right corner pop up

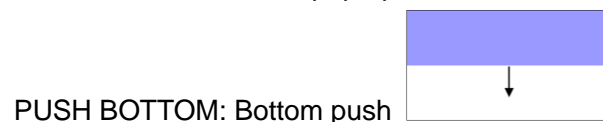
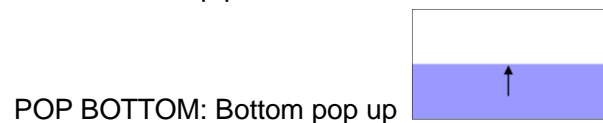
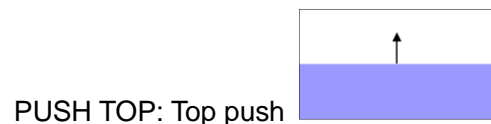
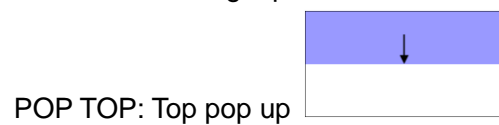
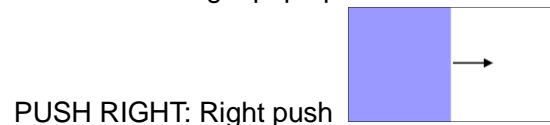
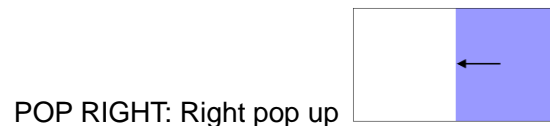
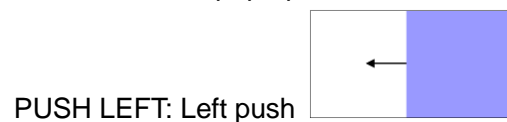
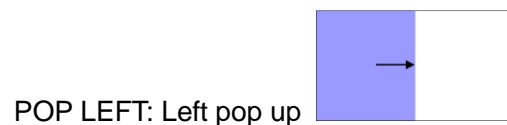
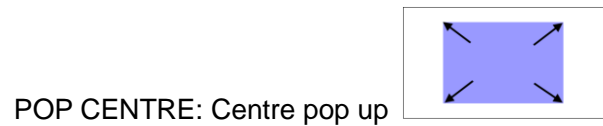
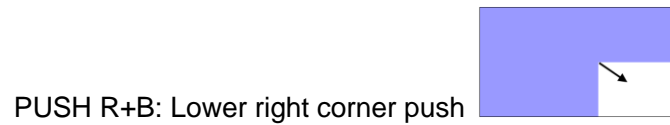
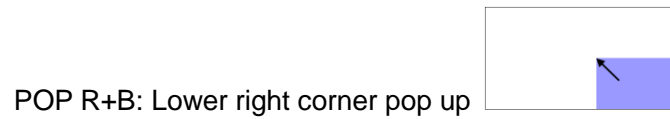
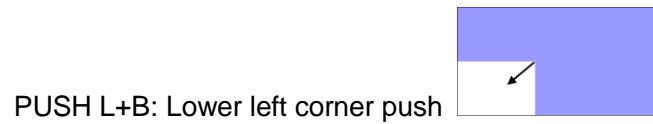
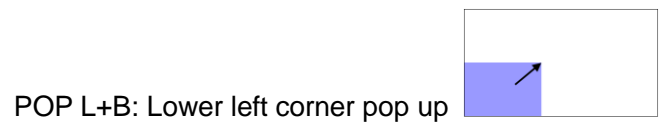


PUSH R+T: Upper right corner push




4. Menu Orientation

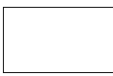
MENU



4. Menu Orientation

MENU

Note:  On behalf of the image emerging;

 On behalf of the image disappearing;

Arrows represents the direction of the image move, that is, the image that arrow point, is compressed or stretched to the direction that arrow indicates, until disappear or full screen.

FADE TIME: Switch time setting. Press UP/DOWN button to choose the time and press the knob to confirm. The switching time ranges from 0 to 1.0.

ALPHA: It can set the image transparency, regulating range between 0 - 16.

DEINTERLACE: Force Deinterlace function, can choose "ON" or "OFF".

ON: Force interlace, no effect switching.

OFF: No deinterlace, with effect switching.

MENU --- AUDIO

MUTE: Mute, can open or close it.

VOLUME: Volume adjustment.

AUDIO IN: Can choose audio input source for IMAGE A main image or IMAGE B sub-image.

HDMI: Can choose HDMI audio as INTERNAL embedded audio or EXTERNAL audio.

MENU --- SPLIT

Choose the SPLIT, press the knob to confirm, then the LCD screen displays the level 2 menu as following:

SPLIT ON/OFF: Split function, can choose "ON" or "OFF".

H TOTAL: Horizontal total.

V TOTAL: Vertical total.

H POS: Horizontal phase setting.

V POS: Vertical phase setting.

H SIZE: Width setting.

V SIZE: Height setting.

4. Menu Orientation

MENU

MENU --- SAVE SETUP

SAVE TO: The device provides three save modes, users can save the current operation to SAVE1 to SAVE10;

Note

The SAVE/PIP1 button can also fulfill this setting.

LOAD FROM: It can call the saved user modes via the call save function.

DELAY CALL: Set delay the output time. When more than one equipment power on, and the processor is the end equipment in order to improve question that can't identify the input signal and phenomenon that LED screen appear messy code and flash screen, now need to delay the input time.

MENU --- SYSTEM

SYSTEM INFO: System information.

MCU VER: Information of MCU version.

VIDEO VER: Information of VIDEO version.

SN: It is the Factory serial number of VSP 516S which is used to search the information of VSP 516S.

IP: IP address.

DATE&TIME: Display date or time.

DATE: Display date.

TIME: Display time.

WORK TIME: Display the working time from boot to present.

TOTAL TIME: Total working time.

BOOT TIMES: Boot times.

TIMING CONTROL: Timing control switch.

CHANGE DATE.

CHANGE TIME.

ETHERNET: Network setting, including:

4. Menu Orientation

MENU

NETWORK ON/OFF: Can choose "ON" or "OFF".

IP ADDRESS: 192.168.000.100.

SUBNET MASK: 255.255.255.000.

GATEWAY: 192.168.000.001.

LOCK FRONT PANEL: Through this setting can choose whether to lock the keys, if the key is locked, the equipment will remind: "please click MUNE and SEL key to release button!" User can also press the two keys to unlock equipment.

LICENSE SETUP: The device will not work if excess the prescribed time, there are no signal output, it needs to input password and modify the using time to continue to work.

CAN USE TIME: Display the rest of the working time.

MENU --- LANGUAGE

Through this option, user can choose Chinese or English according to their needs to operate the interface more quickly.

MENU --- FACTORY RESET

Enter FACTORY RESET to reset the IP; choose YES and press the knob to confirm; then VSP 516S is reset to its factory settings. After 5 seconds, it completes factory settings and is ready for more operations.

5. Communication Software Guideline

In This Chapter

This chapter provides detailed information about the control communication software. The following topics are discussed:

- [Software Installation](#)
- [Software Operation](#)
- [How to Connect Upper Monitor by LAN Interface?](#)
- [How to Connect Upper Monitor by RS232 Interface?](#)
- [How to Connect Upper Monitor by USB Interface?](#)

5. Communication Software Guideline

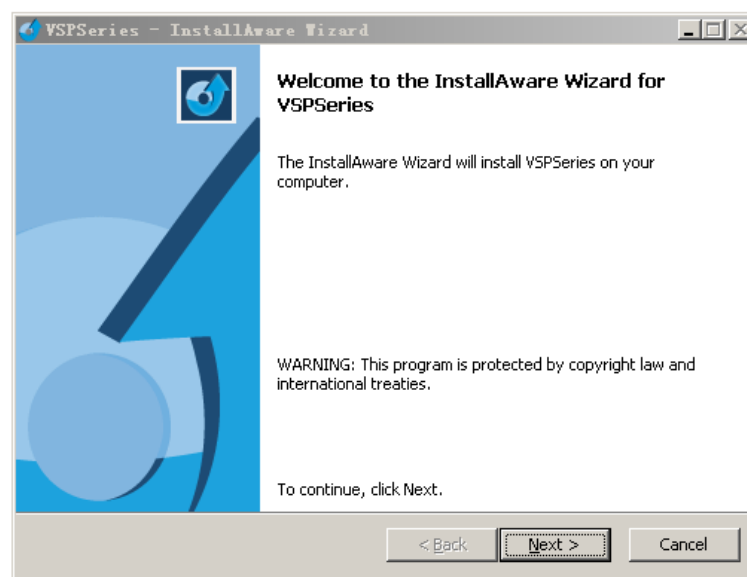
Software Installation

Software Installation

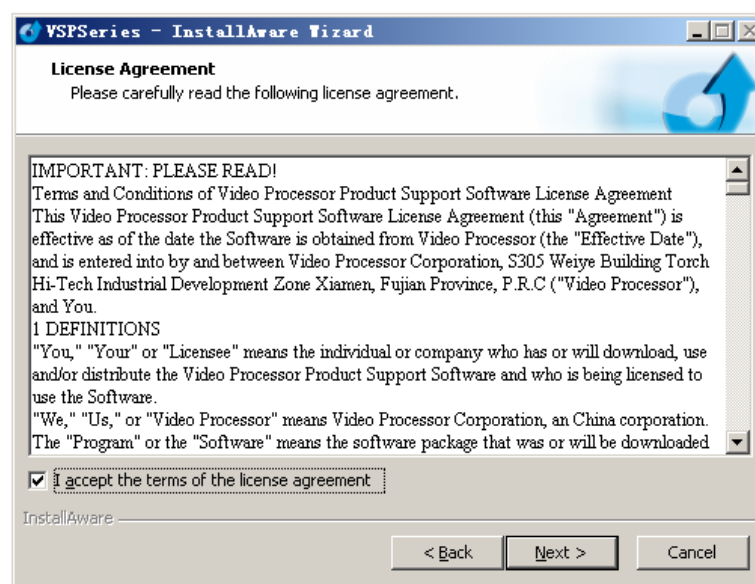
AVDSP video processor is very easy to be configured with user friendly communication software, support drag and drop operation for edit and display. Also it can be customized with schedule function.



Double click **VSPSeries 1.0.0.4C...** to install, English version default for use, click “select” to next dialog:

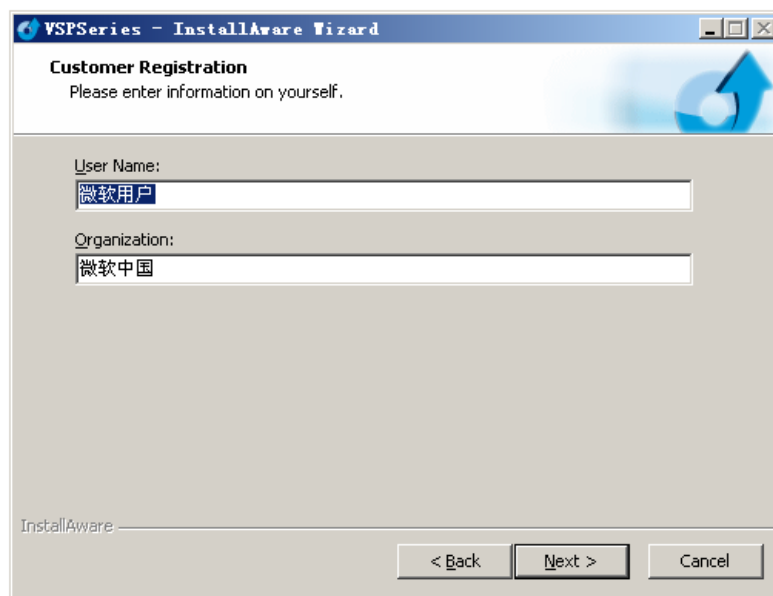


And in next dialog is the user agreement of the software, click Agree to go on:



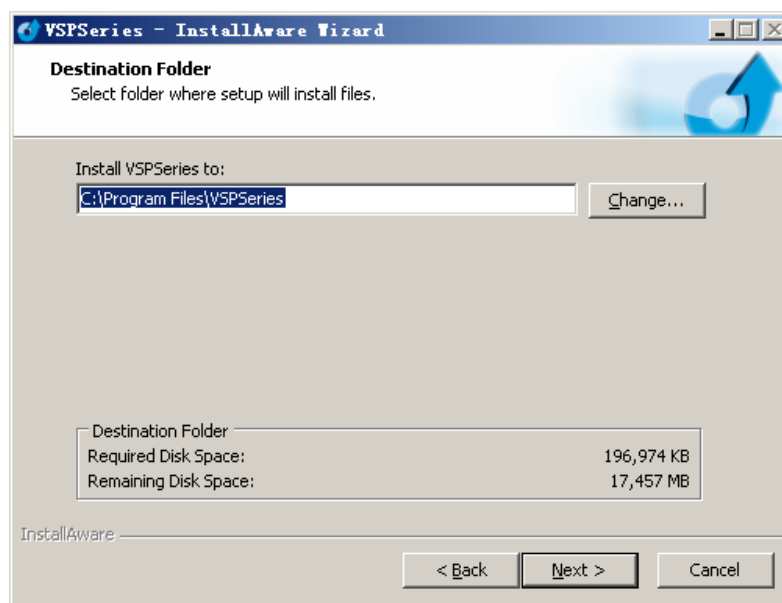
5. Communication Software Guideline

Software Installation



The screenshot shows the 'Customer Registration' step of the VSPSeries installation wizard. The window title is 'VSPSeries - InstallAware Wizard'. The main heading is 'Customer Registration' with the instruction 'Please enter information on yourself.' Below this, there are two text input fields: 'User Name:' containing '微软用户' and 'Organization:' containing '微软中国'. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'InstallAware' logo is visible in the bottom left corner.

User can select “Change” to choose the VSP 516S install software:

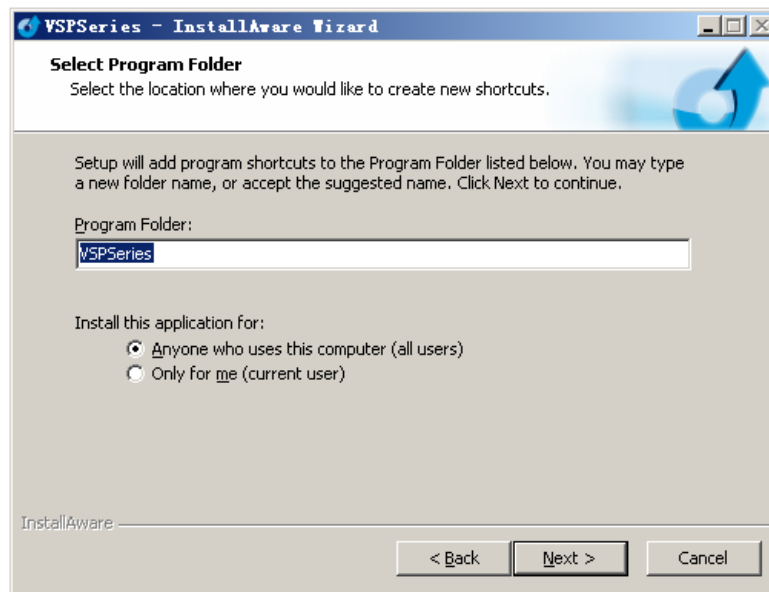


The screenshot shows the 'Destination Folder' step of the VSPSeries installation wizard. The window title is 'VSPSeries - InstallAware Wizard'. The main heading is 'Destination Folder' with the instruction 'Select folder where setup will install files.' Below this, there is a text input field labeled 'Install VSPSeries to:' containing 'C:\Program Files\VSPSeries', followed by a 'Change...' button. At the bottom, there is a summary box showing 'Destination Folder', 'Required Disk Space: 196,974 KB', and 'Remaining Disk Space: 17,457 MB'. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'InstallAware' logo is visible in the bottom left corner.

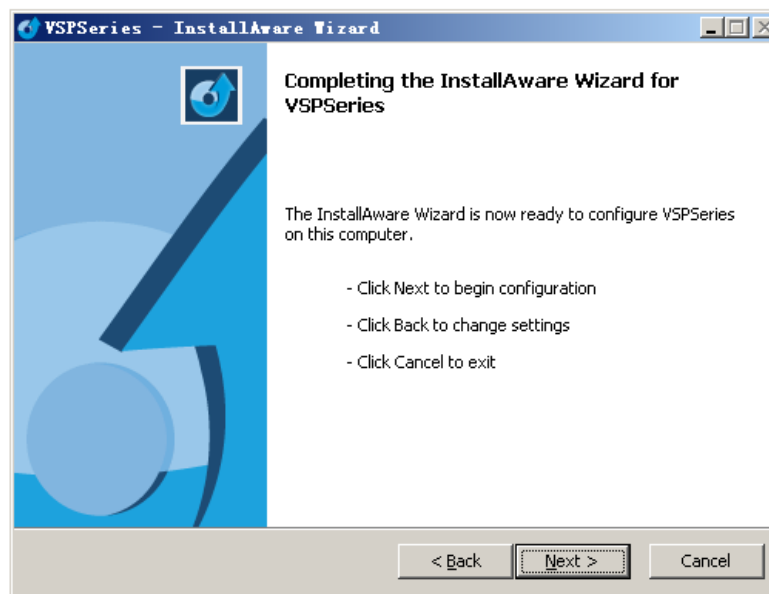
5. Communication Software Guideline

Software Installation

Click “Next” to go on:



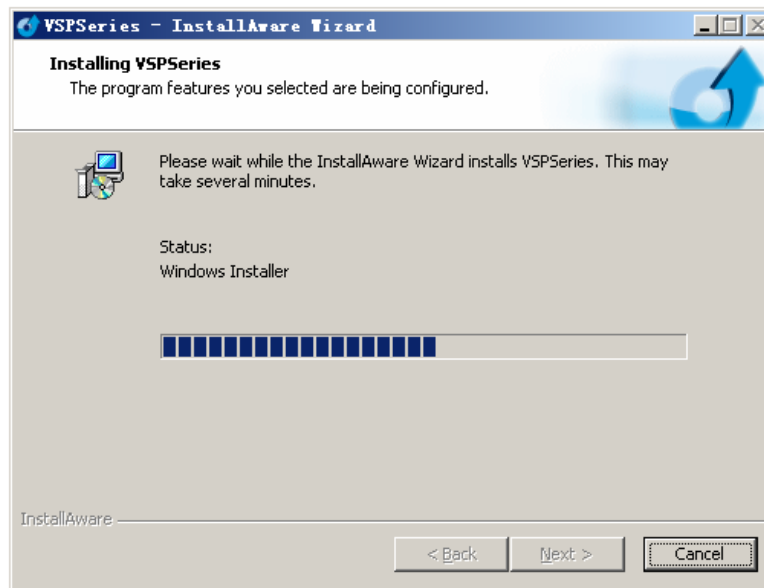
Click “Next” to go on:



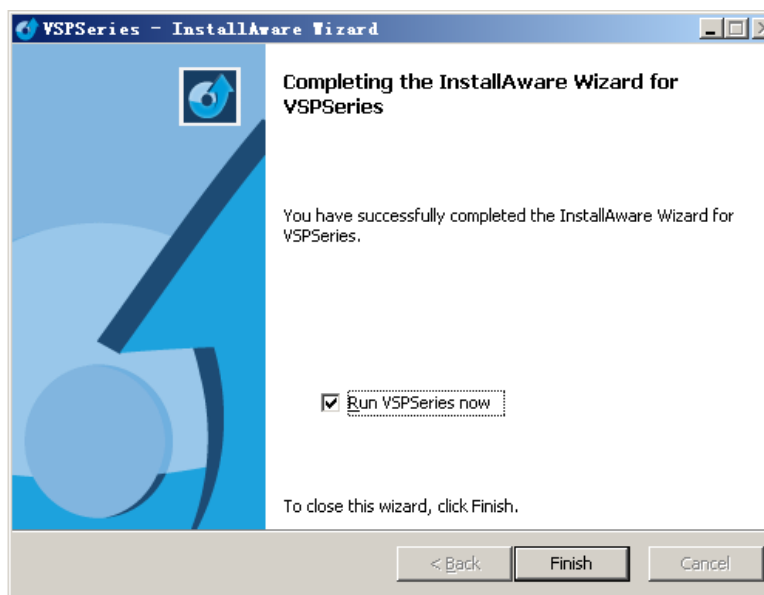
5. Communication Software Guideline

Software Installation

Click “Next” to go on:



Click “Finish” and ready to run VSP 516S console:



5. Communication Software Guideline

Software Operation

Software Operation

Install communication which comes with the package of VSP 516S device.

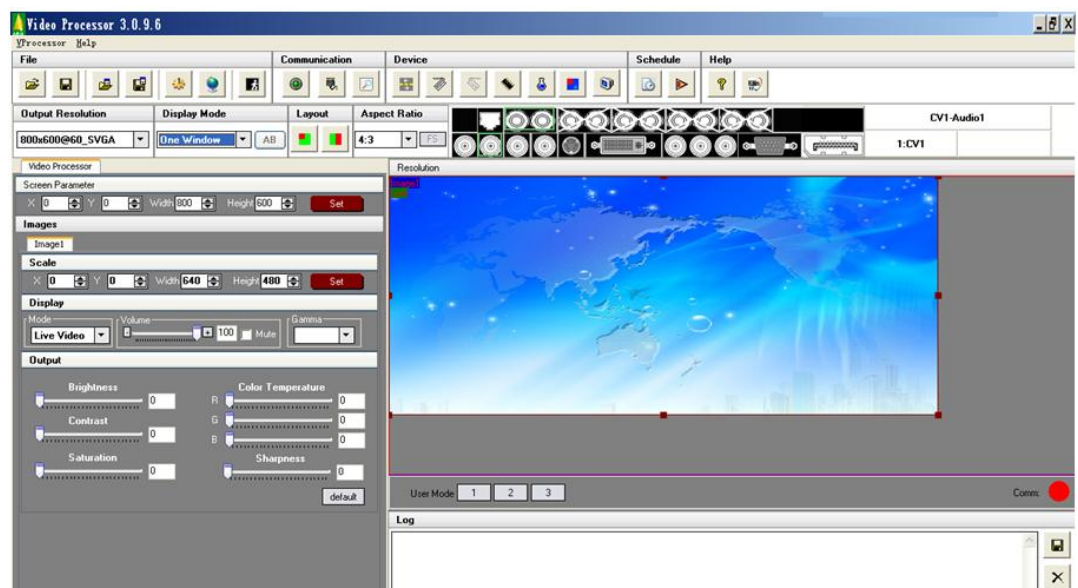


Double click icon from home screen to run the software.



Double click icon, choose and click VSP516 to run the software.

VSP 516S communication software interface as shown:



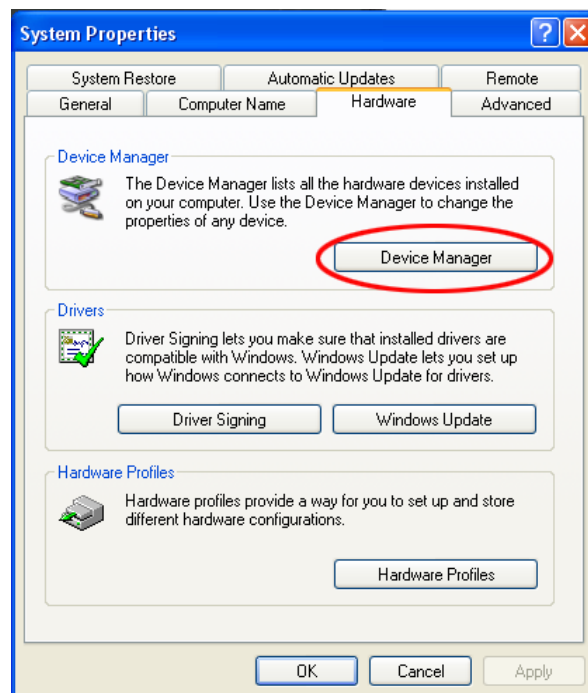
Connection

When control video processor through PC software, besides the power cord, the product default equip with a line that is COM (RS-232), 9-pin (DB9F), RJ11 COM crystal head (6 B4C). Below are the details about connection of steps:

First connect 9-pin (DB9F) to the computer on the corresponding port, and connect COM crystal to RS232 port on video processor. Open video processor; Next, operate the computer, back to computer desktop, right click **【My computer】** to **【Properties】**, find the **【Hardware】** option card, as follows, left click **【Device manager】** :

5. Communication Software Guideline


Software Operation





Find **【(COM and LPT)】** port in **【device manager】** , click the plus sign on the left, record serial interface name that computer provides, as following chart, the serial port is COM1.



Confirm used COM and open control software, click **【communication】**

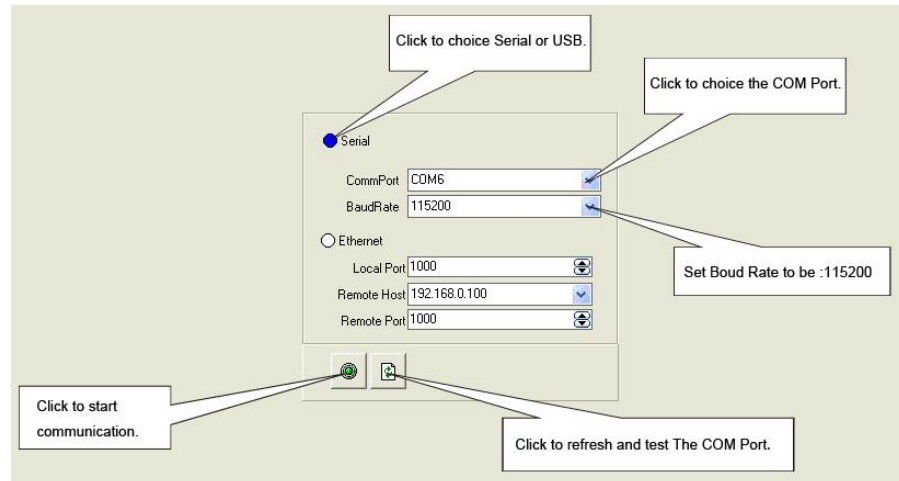
page, enter setup option, Serial is the default COM, click icon  to refresh COM number, choose available COM, default Baud rate is 115200.

After serial setting, click  icon, the icon becomes  when

5. Communication Software Guideline

Software Operation

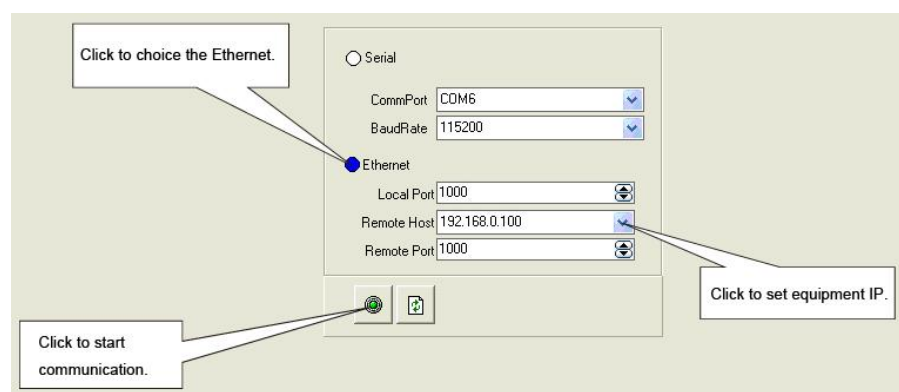
successfully connected, on the left button showing COM6: Opened., meaning has connected video processor through COM, and can control video processor through the PC software.



For more detailed information, please refer to: [“How to connect upper monitor by RS232 interface?”](#). In addition, we also equipped with USB line, you can also connect the computer and video processor with it to control PC software. Please refer to “How to control processor with console software by USB?” for more detailed information.

Note



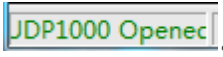
RS 232 COM line can upgrade 100M program, while USB can't.



Ethernet , user can fill any number less than 1023 in local port, the remote port must be 192.168.0.100 and the remote port must be 1000. After

5. Communication Software Guideline

Software Operation

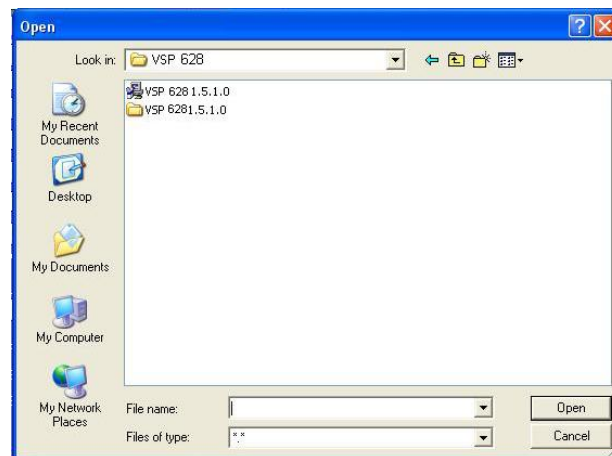
setting above, click the icon  to connect with the net work. If successful connect, the icon becomes , status on the left button showing .

Use

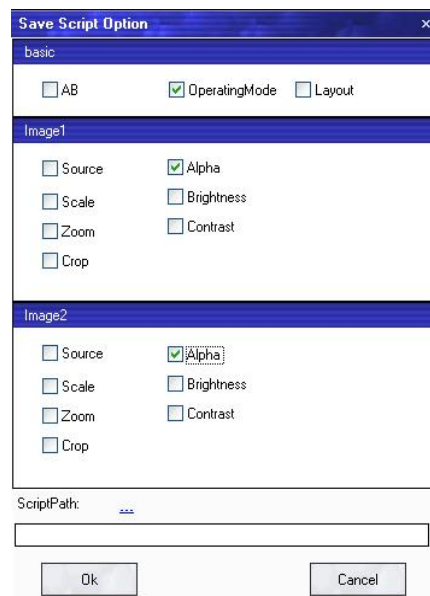
File Toolbar



: Open script. User can open saved script and alter its parameters.



: Save script. Save current user parameters as script to the prescribed path.

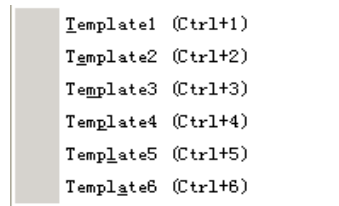


: Import template. There are six templates for user. Users can setup

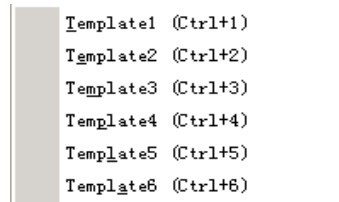
5. Communication Software Guideline

Software Operation


one of templates as the common one.

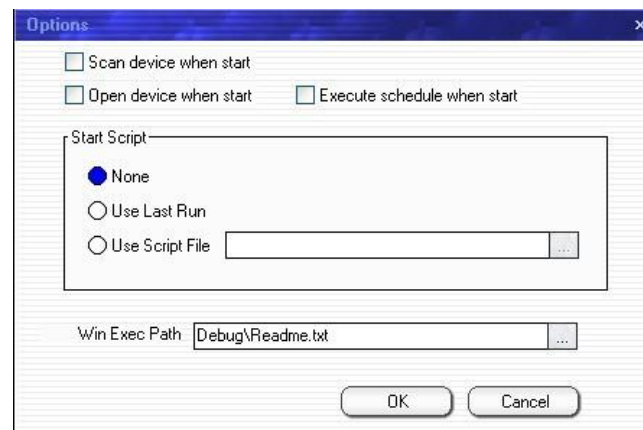


: Export template. Export current config as template.



: Option: User can choose open device when start and using script saved before or execute schedule edited before when start.

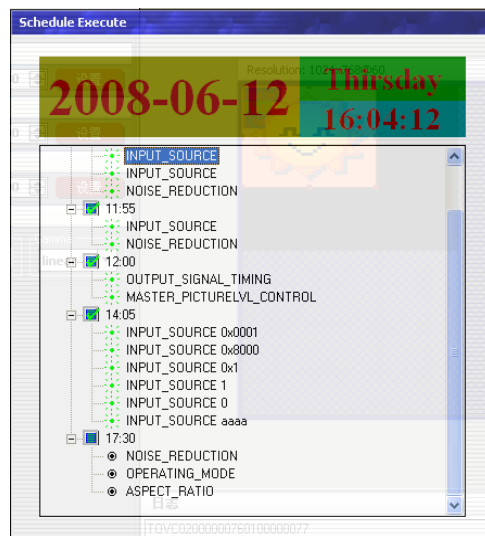
If user choose open device when start, user can use last run, use script file or none when user start. User can click  to choose which script user want to open.



If user choose execute schedule when start, the next dialogue will display when software run.

5. Communication Software Guideline

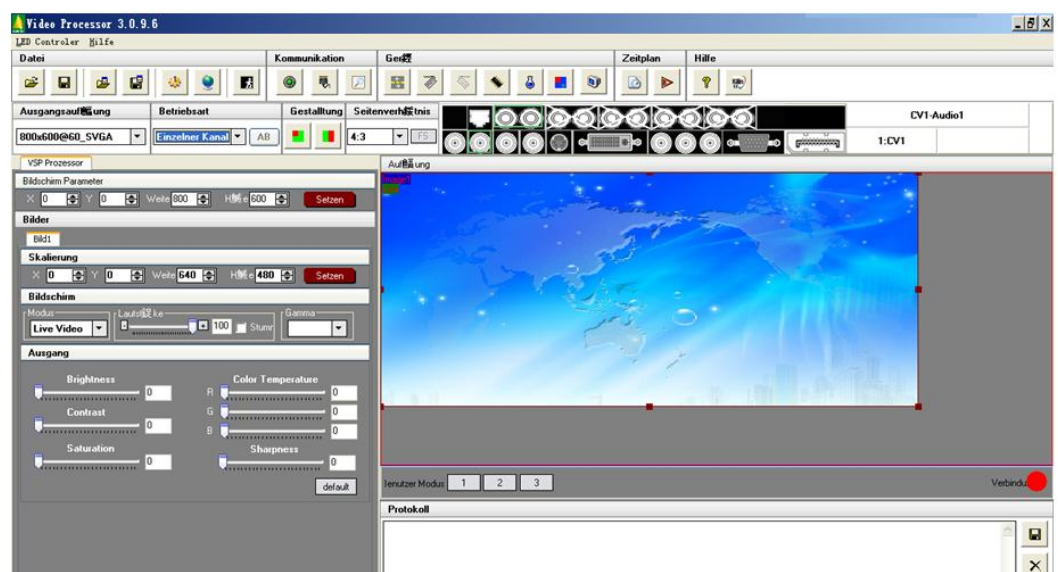
Software Operation



: Language: The software supports Chinese, English and German version.



The picture following is the German dialogue.



: Exit

5. Communication Software Guideline

Software Operation

Communication Toolbar



: Open COM.



: Close COM



: Set COM.

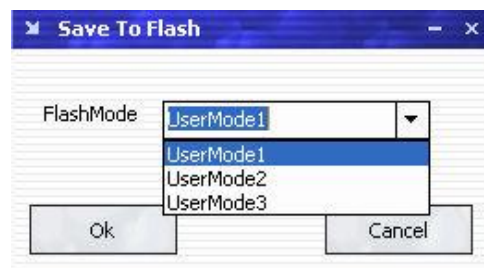
Device Toolbar



: Synchronization.



: Save to flash.

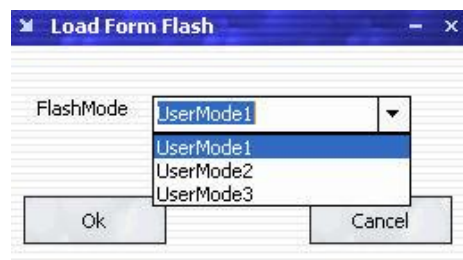


Note

Same as MENU → SAVE SETUP → SAVE
TO or the same as the SAVE/PIP1 key.



: Load form Flash.



Note

Same as MENU → SAVE SETUP →
LOAD FROM or same as the LOAD/PIP2 key.



: Factory setup;

5. Communication Software Guideline

Software Operation



: Advance



Note

Advance is only done by engineer. Please connect us for password.



: Audio patterns, can choose audio input source for IMAGE A or IMAGE B.

Note

Same as MENU → AUDIO → AUDIO IN.



: VGA adjustment.

Note

Same as MENU → INPUT → VGA ADJUST.

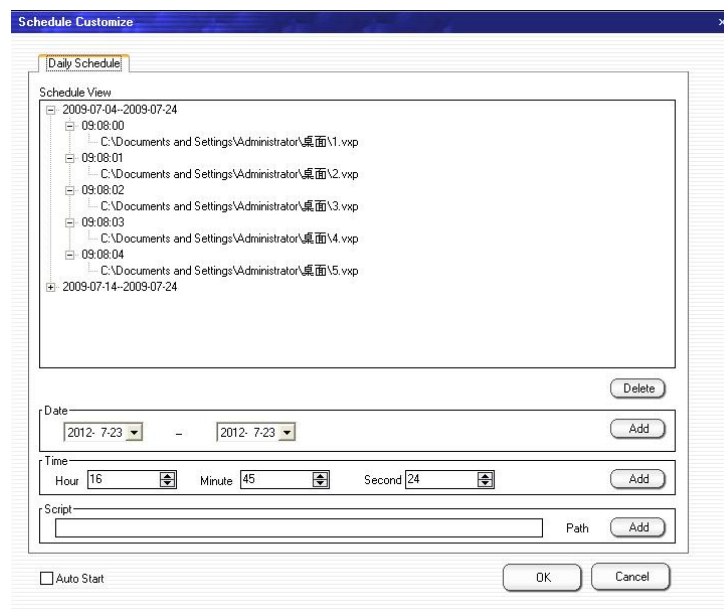
Schedule Toolbar



: Customize schedule

5. Communication Software Guideline

Software Operation



: Execute schedule. Execute tasks according to schedule.



Help Toolbar



: Help: Display helps dialogue;



: About: Display information of software;

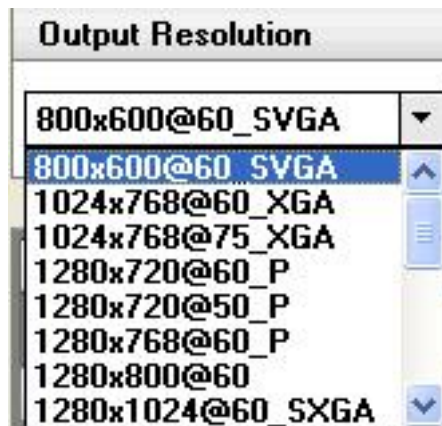
Output Resolution Toolbar

User can choose different output resolution by selecting from pull down list.

5. Communication Software Guideline

Software Operation

VSP 516S has 20 output resolutions for users selection.



Note

Same as MENU → OUTPUT → FORMAT OUT
or OUT key.

Images Display Mode Toolbar

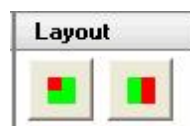
Choose to work in single channel or dual channel.



Layout Toolbar

If in single channel mode, the dialog is in grey and it is in limited use.

If in dual channel mode, user can set the device to work in PIP or PBP mode directly with quick preset layout button as following.



Note

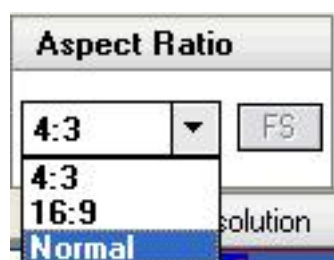
Same as MENU → OUTPUT → PIP →
LAYOUT.

Aspect Ratio Toolbar

Users can select 4:3 or 16:9 in the pull-down options.

5. Communication Software Guideline

Software Operation



Note

Same as MENU → OUTPUT → RATIO.

Signal Input Toolbar

The white area displays the name of input interface when the mouse is over the interface picture on the left. The green pane means current selected interface.



When user selects a dual channel mode, select any channel image, click on the toolbar interface the ICONS for the channel selection input interface, i.e.: SDI, Composite1, Composite2, Composite3, S - Video, DVI, YPbPr, VGA, green toolbar says it has chosen the current interface for channel 1 input interface, the default last single channel chosen interface for channel 2 input interface, the currently selected channel will be shown on the right side of the source.



Screen Parameter Toolbar

User can set size and position of the screen simply, mainly applies to LED screens users. After setting screen parameter, the user choice PIP or PBP operation, display picture can directly shows on corresponding screen.



5. Communication Software Guideline

Software Operation

Note

Same as MENU → OUTPUT → SCREEN

Image Toolbar

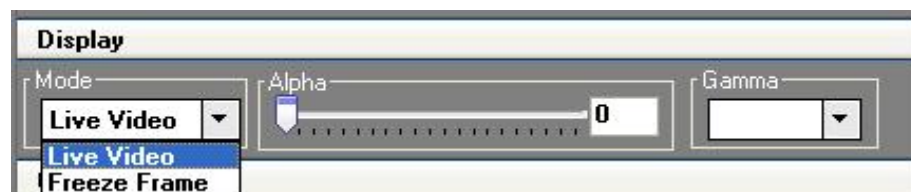
User can scale the images; Image 2 can't choose in single channel mode.



Note

Same as MENU → OUTPUT → SCALE , or
SCALE/CROP key.

Display Toolbar



Display toolbar Users can set Alpha value of “dynamic Video” and “static current frame” through display toolbar. When it is in dynamic Video, the video plays properly; when it is in static current frame, the video stop playing.

Note

Same as MENU → OUTPUT → DISPLAY
MODE → MODE or FREEZE key.

Through the volume toolbar users can adjust the volume of audio, or mute.

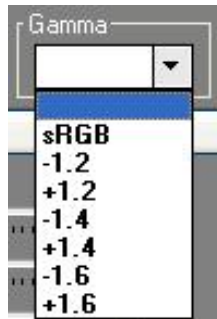
Note

Same as MENU → AUDIO →
MUTE/VOLUME.

5. Communication Software Guideline

Software Operation

Setting Gamma is generally not recommended, since LED large screen itself has Gamma function. For further information, users can contact with our customer service team.

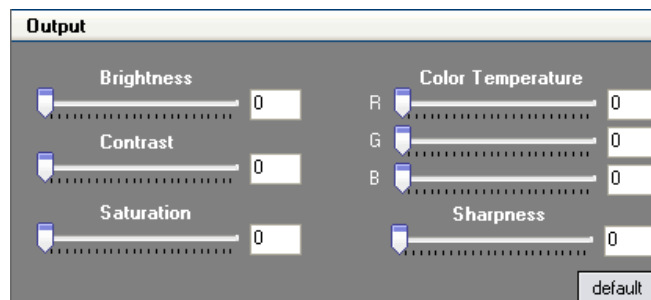


Note

Same as MENU → OUTPUT → GAMMA

Output Image Setup Toolbar

User can customize the brightness and the contrast.



Note

Same as MENU → OUTPUT → PICTURE.

Images Display Toolbar

User can customize image or images position and size just by drag and drop image (images) in this area. This process is sync to the parameters in images toolbars.

5. Communication Software Guideline

Software Operation



User Mode Toolbar

Users can recall the saved user mode1, mode2 or mode3

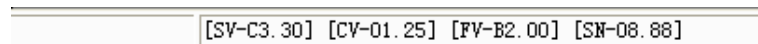


Log Toolbar

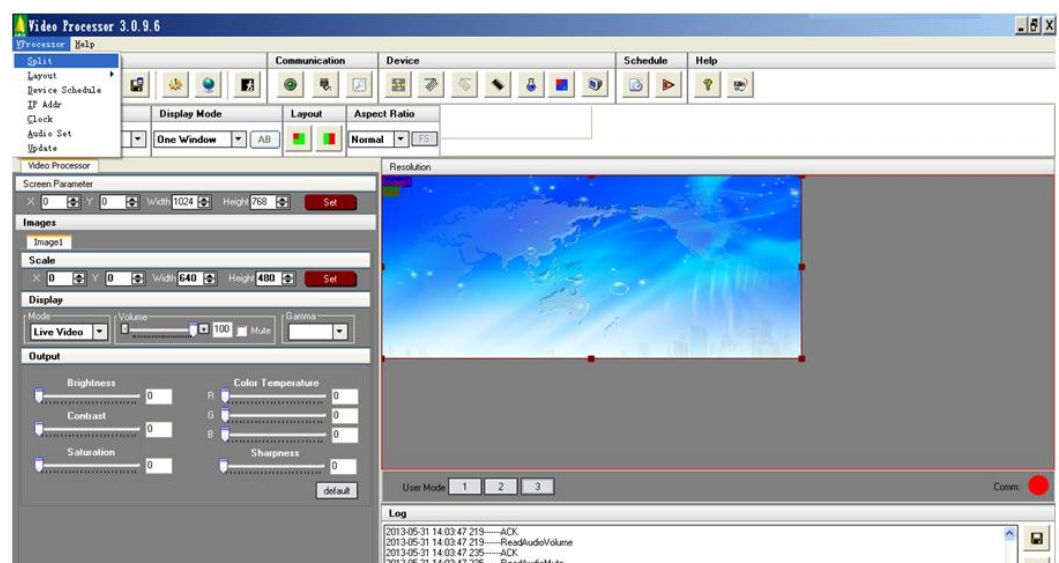
User can save or delete the operate log file.

Information Toolbar

It is the VSP 516S software version, core board version, firmware version and the serial number in bottom of the software interface.



【Video Processor】Options



5. Communication Software Guideline

Software Operation

Split:

Split

☐ Split ON/OFF

H Total	0		V Total	0		Set
H Position	0		V Position	0		Set
H Size	0		V Size	0		Set

Split function, choose “ON” can set H total, V total, H position, V position, H size and V size.

Note

Same as MENU → SPLIT.

Layout:

Through the layout of the user can set a variety of double-picture mode.

Layout

- Device Schedule
- IP Addr
- DVI\VGA Scale Switch
- Clock
- Audio Set
- Update

- LP_SWAPAB
- LP_SWAPBA
- LP_COPYAB
- LP_COPYBA
- image 2 over image 1
- image 1 over image 2
- User mode

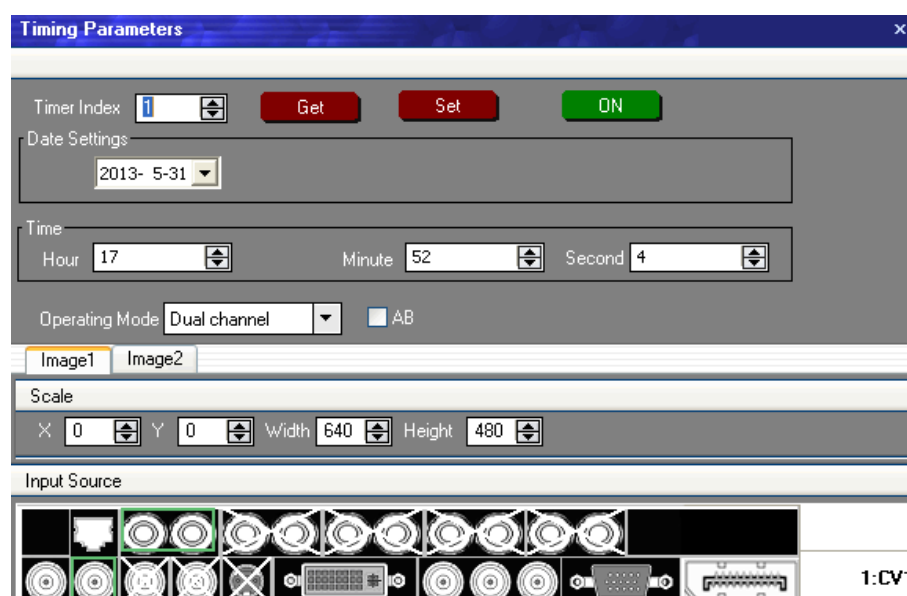
Device Schedule:

Users can set up VSP 516S to play the appointed input video automatically in time and operation of single or dual channels, ratio place.

Users can setup up to 10 timing operation in the schedule.

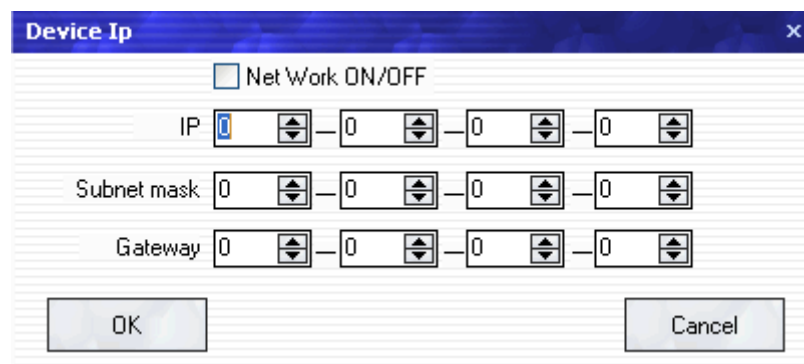
5. Communication Software Guideline

Software Operation



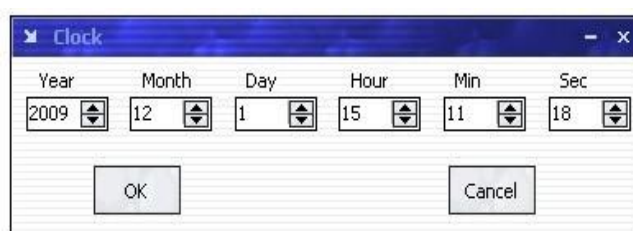
IP Address:

Users can set equipment IP, subnet mask and gateway, usually used under the condition of one computer control or remote control several computers. It takes effect immediately after users change IP through serial port; and when users change IP through network, it takes effect after reopen the software.



Clock:

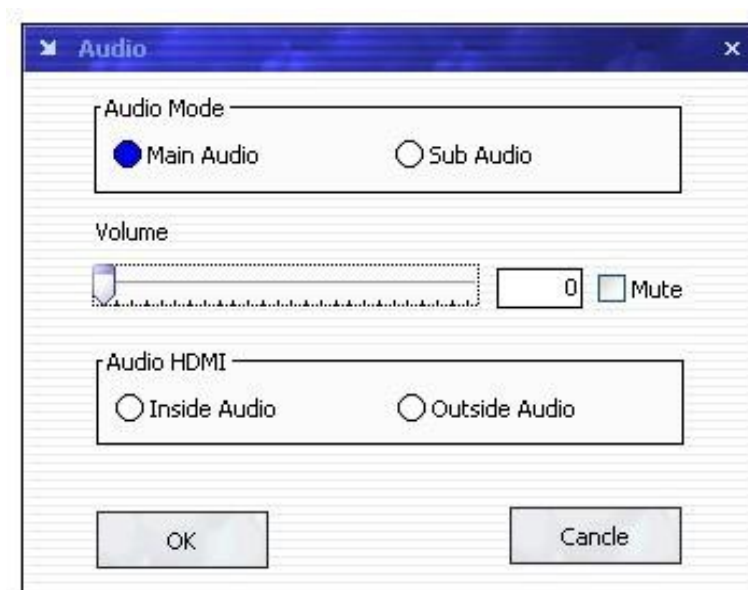
Users can set or adjust lower computer time through "clock"



5. Communication Software Guideline

Software Operation

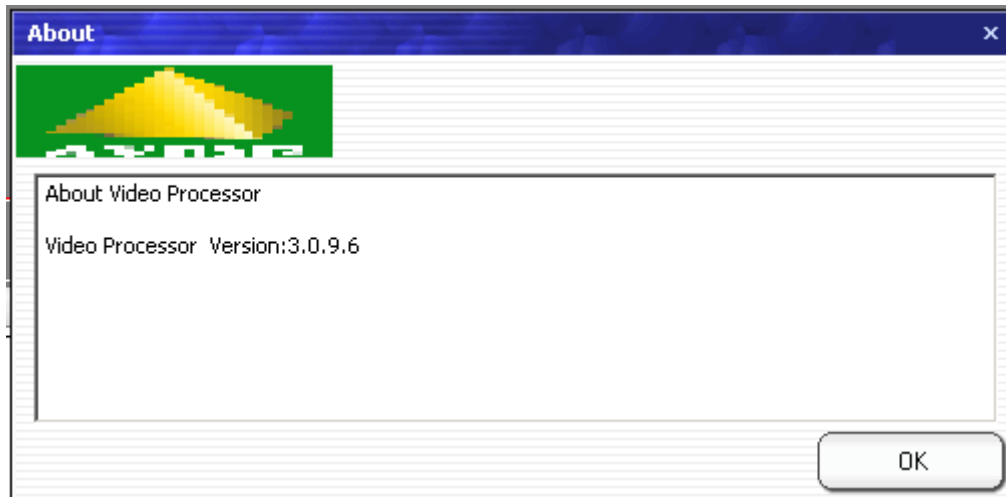
Audio setting:



【Help】 Options

Version: The update of software.

About: The information of the software version.



5. Communication Software Guideline

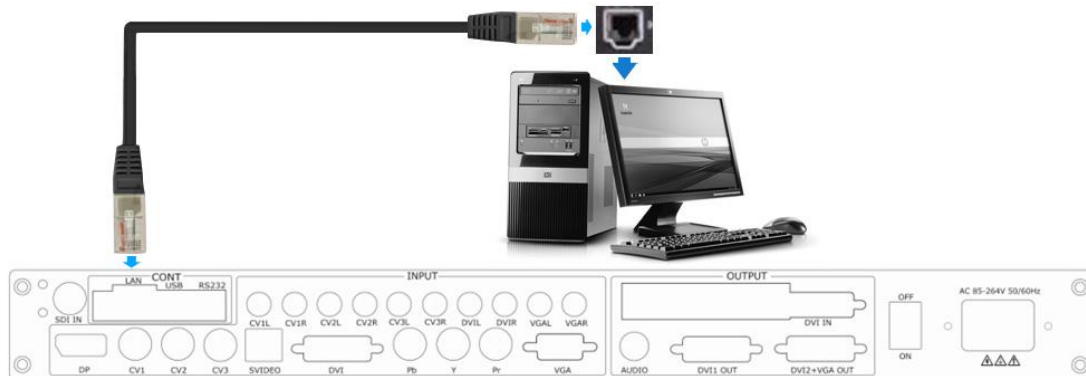
How to Connect Upper Monitor by LAN Interface?

How to Connect Upper Monitor by LAN Interface?

First, install the upper computer software in the computer;

Connect VSP 516S and computer with cable, the connection diagram is as follows:


Version 1: VSP 516S with audio:



Version 2: VSP 516S with two sending cards:

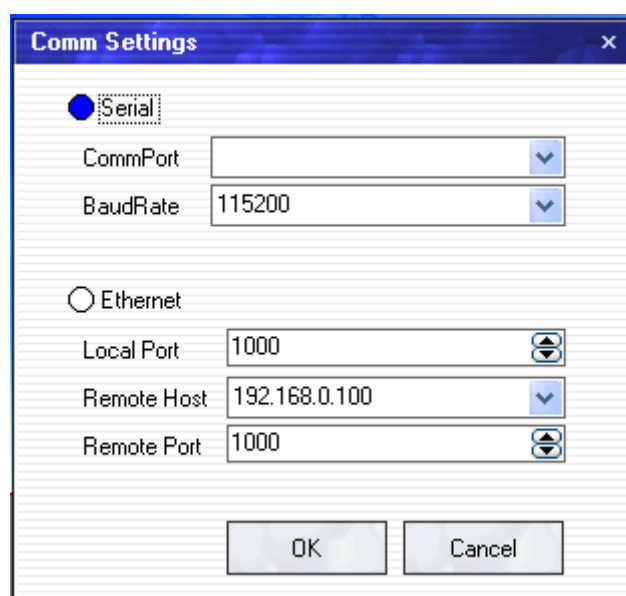


Power on VSP 516S, start the network function, specific steps are as follows: MENU--SYSTEM -- ETHERNET -- NETWORK, select ON, and check the IP address of the equipment, confirm if it is consistent with the computer, such as 192.168.0.***, take 192.168.0.100 for example.

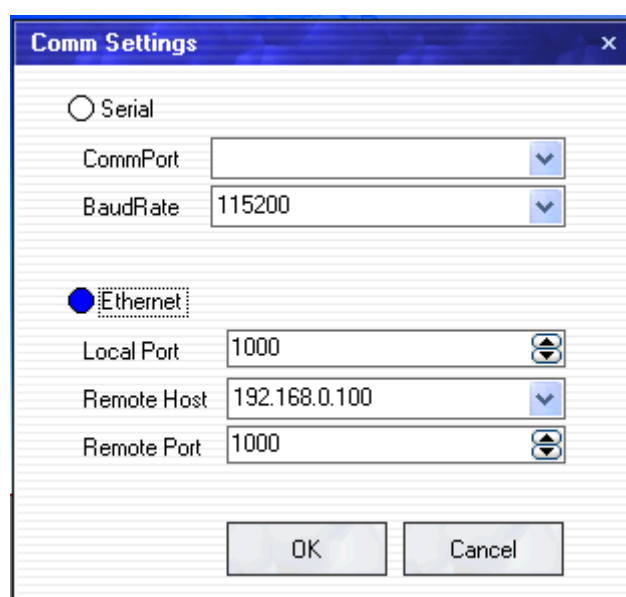
Open the upper computer software, click , interface is shown as follows:

5. Communication Software Guideline


How to Connect Upper Monitor by LAN Interface?



Choose **【Ethernet】** ;



Input IP address, click **【OK】** .

Click  to open the serial port, check if the **【Comm】** icon in the lower-right corner of the control software interface is green, and log outputs information smoothly, then it can control the device through PC software.

5. Communication Software Guideline

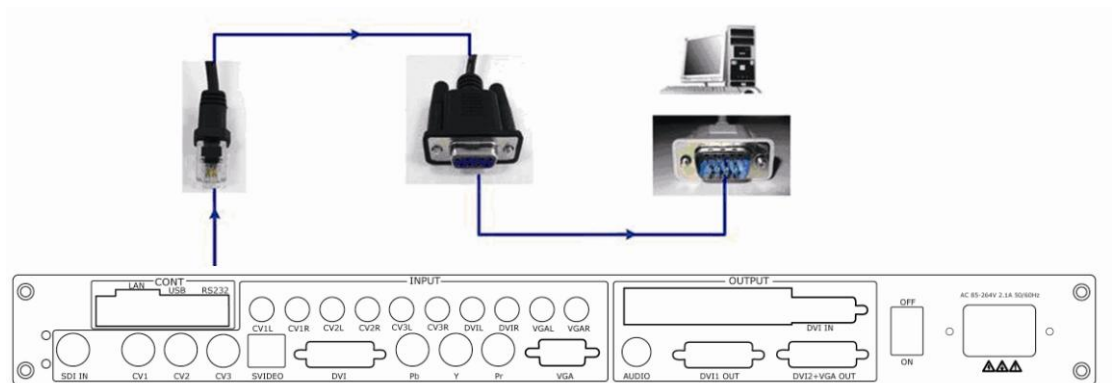
How to Connect Upper Monitor by RS232 Interface?

How to Connect Upper Monitor by RS232 Interface?

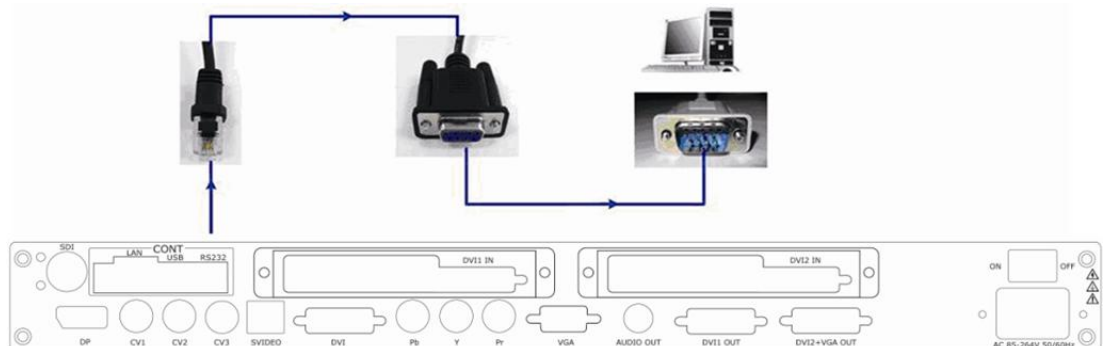
Firstly, install the control software in your PC;

Take out the RS 232 cable as following (RS-232, with 9-pin on one end, RJ 11 on the other side) . Connect one side of the RJ11 download line to the RS232 on the video processor VSP 516S, and the other side to be connected to the serial port on the PC.

Version 1: VSP 516S with audio:



Version 2: VSP 516S with two sending cards:

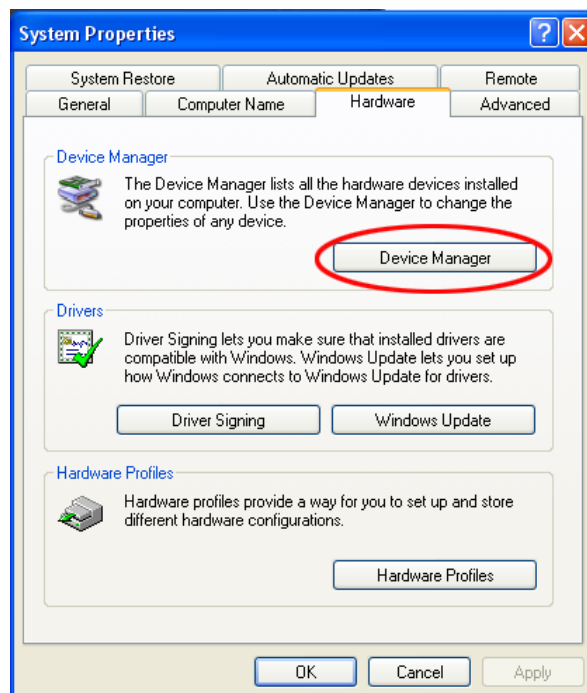


There is no any serial port on your PC; you will need another Serial to USB adapter. Connect one end of the RJ11 download line to the RS232 on the video processor. Connect the end of USB-side to the PC; Ensure the cable connection is good. Turn on the Video Processor VSP 516S.

Right click the **【My Computer】** on the home screen of control PC. Enter **【Attribute】** , Find **【Hardware】** Option, as following.

5. Communication Software Guideline

How to Connect Upper Monitor by RS232 Interface?



Click 【Device Manager】 “+” on the left, check the COM number, as following, **COM1 is offered.**



Remember the COM you are using and then run the control software, find

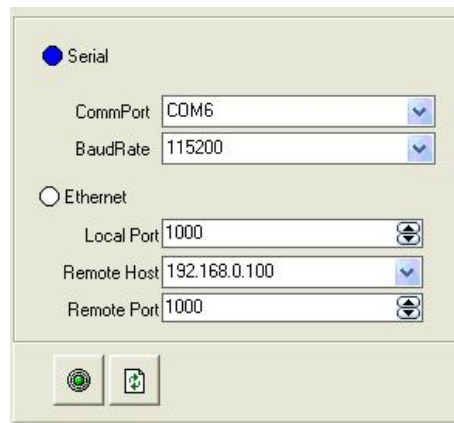
【Communication】 option. In default, first time user have to click




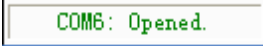
button, as following:

5. Communication Software Guideline



How to Connect Upper Monitor by RS232 Interface?



Check and tap **【Serial】**, Serial Port , for example, is **COM6** which is checked from device manager. Set VSP 516S Boud Rate to be :115200, Click **【Confirm】** after setting.

Click  **【open serial】**, check if **【COM】** icon is on the bottom right corner, when there is the prompt green  showing on the software, it means the communication is ok , and you can use the software to control the device now.

Note

If power off during communication, should close the port , by first, and plug in out of the USB  and do communication.

5. Communication Software Control Guide

How to Connect Upper Monitor by USB Interface?

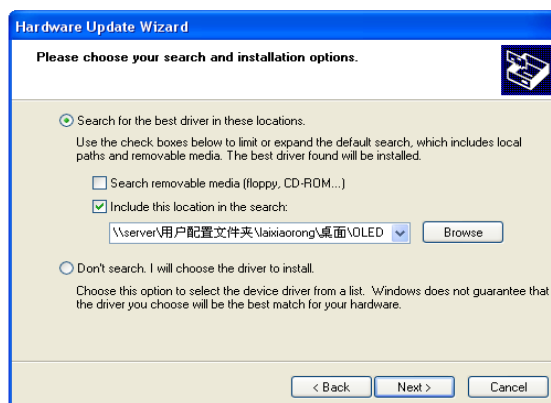
How to Connect Upper Monitor by USB Interface?

Install the driver

Connect the USB cable to the PC and the video processor. Turn on the VSP 516S, for the first time to use USB, the PC will remind finding the new hardware and ask to install the driver for this new driver:



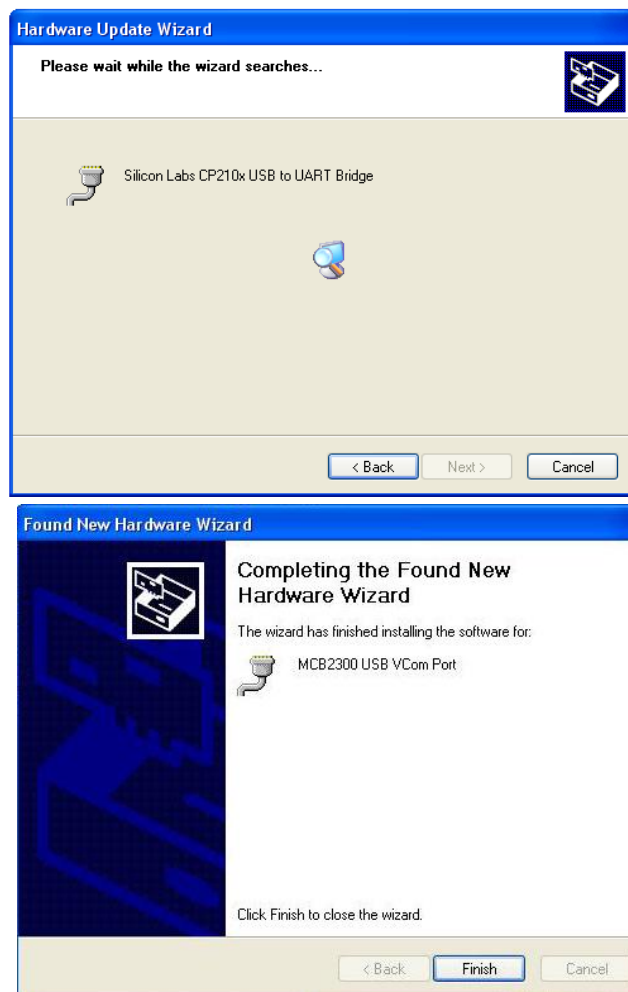
Install from the list or specified location, press “NEXT”:



Press “browser” to find the driver, and press “NEXT”:

5. Communication Software Control Guide

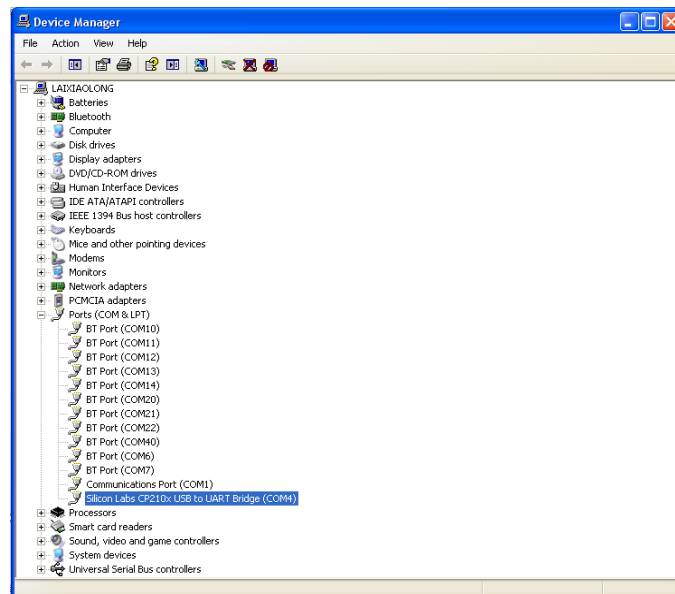
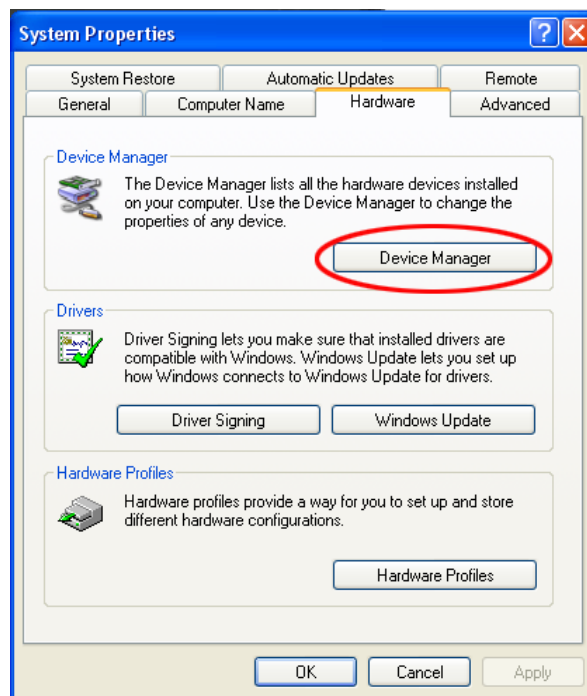
How to Connect Upper Monitor by USB Interface?



When the installation finish, can go to check the installed COM port inside the device management, as following picture shows:

5. Communication Software Control Guide

How to Connect Upper Monitor by USB Interface?

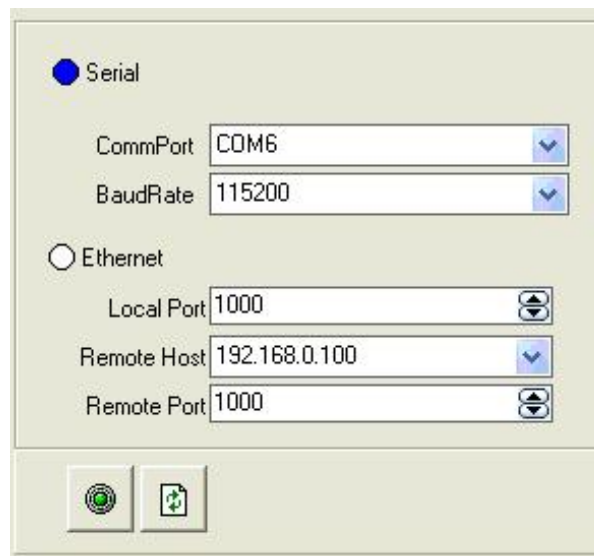


Install the console software, and run after install, shows the interface of the console as following:


Select the COM as installed just now, and set the VSP 516S Boud Rate to be: 115200.

5. Communication Software Control Guide

How to Connect Upper Monitor by USB Interface?



The screenshot shows a software window with two radio buttons: 'Serial' (selected) and 'Ethernet'. Under 'Serial', there are two dropdown menus: 'CommPort' set to 'COM6' and 'BaudRate' set to '115200'. Under 'Ethernet', there are three input fields: 'Local Port' set to '1000', 'Remote Host' set to '192.168.0.100', and 'Remote Port' set to '1000'. At the bottom of the window are two icons: a green circle with a white dot and a green square with a white dot.

Press  to start communication, when there is green point in the right down corner showing on the software, it means the communication is ok, and you can use the software to control the device now, the software operation is the same as VSP 516S.

6. System Setup and Operations

In This Chapter

This chapter provides comprehensive instructions for system setup and operations. The following topics are discussed:

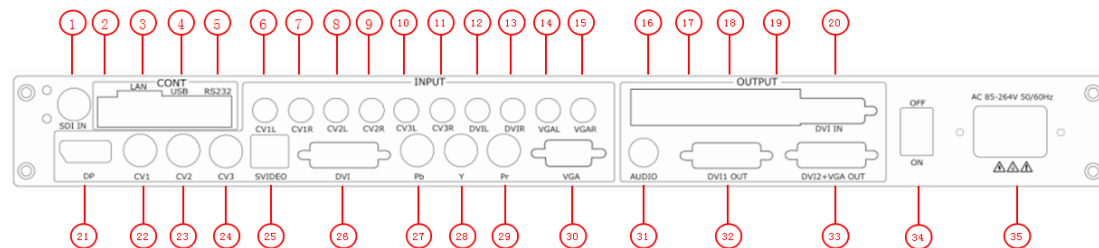
- [Interface and Input Single Option](#)
- [How to choose the language on the LCD](#)
- [How to Adjust the Output Resolution](#)
- [How to Realize Single Image Switching](#)
- [How to Set up the Size and Position of Signal Image](#)
- [How to Set up the PIP](#)
- [How to Choose the Signal Source in PIP](#)
- [How to Set up the Size and Position of PIP](#)
- [How to Set up the Layout of PIP](#)
- [How to Realize Screen Parameter and Full Screen Switching](#)
- [How to Realize Brightness Adjusting](#)
- [How to Realize the Freeze and the Live Image Switching](#)
- [How to Set Up the Volume](#)
- [How to Set Up the Playlist](#)
- [How to Use Black](#)
- [How to Save the Parameter](#)
- [How to Load the Saved Parameter](#)
- [How to Achieve Multiple Cascade](#)

6. System Setup and Operations

Interface and Input Signal Option

Interface and Input Single Option

VSP 516S Back Panel with audio:



NO	INTERFACE	NO	INTERFACE
1	3G SDI input BNC CVBS port	25	S-Video DIN 4
2	Dial the code switch	26	DVI Input DVI-I
3.16.17	10/100M Interface RJ45	27~29	YPbPr Input
4.19	USB Interface	30	VGA Input DSUB15 port
5	RS232 Interface	31	Audio Output
6~15	Audio Input	32	DVI Output DVI-I
18	Power supply port of Sending Card	33	DVI+VGA DVI-I Output
20	DVI input port of sending card	34	Switch and Power
21	Displayport Input	35	Power IEC-3 port
22~24	CVBS Input BNC port		

32. DVI1 have default the main image output , use for connecting the sending card of led SCREEN .VSP516S support resolution format as following:

800x600x60Hz, 1024x768x60Hz, 1024x768x75Hz, 1280x720x60Hz, 1280x720x50Hz, 1280x768x60Hz, 1280x800x60Hz, 1280x1024x60Hz, 1360x768x60Hz, 1366x768x60Hz, 1400x1050x60Hz, 1440x900x60Hz, 1600x1200x60Hz, 1680x1050x60Hz, 1920x1080x60Hz, 1920x1080x50Hz, 1920x1200x60Hz, 2048x1152x60Hz, 2560x812x60Hz, 2560x816x60Hz.

6. System Setup and Operations

Interface and Input Signal Option

Note

Same as MENU → OUTPUT → FORMAT

33. DVI2 + VGA output interface default for preview, mainly through the display preview will output signal, the output signal for DVI video signal and VGA video signal, may meet with DVI interface or VGA interface display and display equipment signal images look prison. Through the DVI - I interface output signal (Preview adopt standard DVI - I interface, compatible VGA output, through the terminal adapter VGA output; The resolution of the output support for:

800x600x60Hz, 1024x768x60Hz, 1024x768x75Hz, 1280x720x60Hz, 1280x720x50Hz, 1280x768x60Hz, 1280x800x60Hz, 1280x1024x60Hz, 1360x768x60Hz, 1366x768x60Hz, 1400x1050x60Hz, 1440x900x60Hz, 1600x1200x60Hz, 1680x1050x60Hz, 1920x1080x60Hz, 1920x1080x50Hz, 1920x1200x60Hz, 2048x1152x60Hz, 2560x812x60Hz, 2560x816x60Hz.

In addition to CONT part and send card and power interface outside, other interface for video signal input interface,

CVBS (BNC Port) Can receive standard video signal from players, cameras etc. Input supported resolution 480i and 576i via BNC. Supported standards include: PAL, NTSC and SECAM.

SVIDEO (DIN 4 Port) Can used to input S-Video signal

DVI (DVI-I Port) Computer graphics interface may receive the DVI output interface can also through the DVI turn HDMI cable to connect the computer graphics HDMI output or DVD HDMI output;

YPbPr (BNC Port) Can support DVD player, video signal. Through the BNC × 3 this equipment component interface, as the Pb, Y, Pr,

VGA (DB15 Port) Can support HD player, computer, video signal. Through the DB15 interface input signal.

6. System Setup and Operations

Interface and Input Signal Option

Displayport interface: Input the video signal from HD player, computer, input signal via displayport interface.

SDI (BNC Port) Can receive video signal from HD player, and HD camera, connect interface 20 via 75 ohms BNC port. Connect LED screens via network cable.

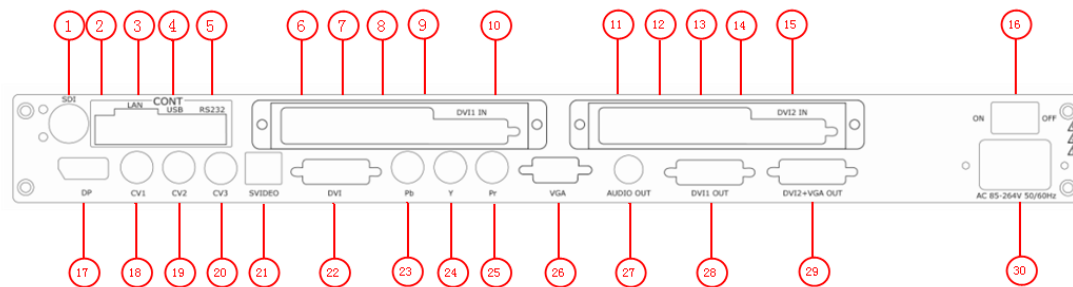
34. Power: Power has been already supplied for video processor

35. AEC Port: AC 85-264V 3.8A 50/60Hz IEC-3 Power Interface.

6. System Setup and Operations

Interface and Input Signal Option

VSP 516S back panel with two sending cards.



NO	INTERFACE	NO	INTERFACE
1	3G SDI input BNC CVBS port	18~20	CVBS Input BNC port
2	Dial the code switch	21	S-Video DIN 4
3.6.7.11.12	10/100M Interface RJ45	22	DVI Input DVI-I
4.9.14	USB Interface	23~25	YPbPr Input
5	RS232 Interface	26	VGA Input DSUB15 port
8.13	Power supply port of Sending Card	27	Audio Output
10.15	DVI input port of sending card	28	DVI Output DVI-I
16	Switch	29	DVI+VGA DVI-I Output
17	Displayport Input	30	Power IEC-3 port

28. DVI1 have default the main image output , use for connecting the sending card of led SCREEN .VSP516S support resolution format as following:

800x600x60Hz, 1024x768x60Hz, 1024x768x75Hz, 1280x720x60Hz, 1280x720x50Hz, 1280x768x60Hz, 1280x800x60Hz, 1280x1024x60Hz, 1360x768x60Hz, 1366x768x60Hz, 1400x1050x60Hz, 1440x900x60Hz, 1600x1200x60Hz, 1680x1050x60Hz, 1920x1080x60Hz, 1920x1080x50Hz, 1920x1200x60Hz, 2048x1152x60Hz, 2560x812x60Hz, 2560x816x60Hz.

6. System Setup and Operations

Interface and Input Signal Option

Note

Same as MENU → OUTPUT → FORMAT

29. DVI2 + VGA output interface default for preview, mainly through the display preview will output signal, the output signal for DVI video signal and VGA video signal, may meet with DVI interface or VGA interface display and display equipment signal images look prison. Through the DVI - I interface output signal (Preview adopt standard DVI - I interface, compatible VGA output, through the terminal adapter VGA output; The resolution of the output support for:

800x600x60Hz, 1024x768x60Hz, 1024x768x75Hz, 1280x720x60Hz, 1280x720x50Hz, 1280x768x60Hz, 1280x800x60Hz, 1280x1024x60Hz, 1360x768x60Hz, 1366x768x60Hz, 1400x1050x60Hz, 1440x900x60Hz, 1600x1200x60Hz, 1680x1050x60Hz, 1920x1080x60Hz, 1920x1080x50Hz, 1920x1200x60Hz, 2048x1152x60Hz, 2560x812x60Hz, 2560x816x60Hz.

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6. System Setup and Operations

Interface and Input Signal Option

Displayport interface: Input the video signal from HD player, computer, input signal via displayport interface.

SDI (BNC Port) Can receive video signal from HD player, and HD camera, connect interface 20 via 75 ohms BNC port. Connect LED screens via network cable.

16. Power: Power has been already supplied for video processor

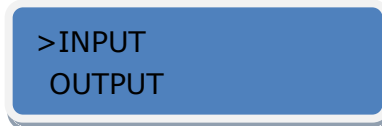
30. AEC Port: AC 85-264V 3.8A 50/60Hz IEC-3 Power Interface.

6. System Setup and Operation

How to Choose the Language on the LCD

How to Choose the Language on the LCD

1. Press MENU button, enter menu option.



2. Rotate the knob, choose 【LANGUAGE】 option.



3. Press the knob to confirm, change the status of option ">" to "*":



4. Rotate the knob again, change the default "ENGLISH" to "Chinese".



5. After finishing, press the knob to confirm, the LCD display "ENGLISH" has been changes to "Chinese".



6. System Setup and Operation

How to Adjust the Output Resolution

How to Adjust the Output Resolution

1. Press MENU button, enter menu option.



>INPUT
OUTPUT

2. Rotate the knob, choose 【OUTPUT】 option.



INPUT
>OUTPUT

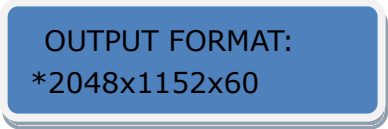
3. Press the knob to confirm, and enter the next level menu, choose 【OUTPUT FORMAT】 option.



OUTPUT DETAIL
>OUTPUT FORMAT

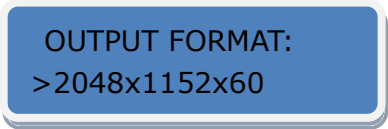
4. Rotate the knob, choose the required resolution, for example:

2048x1152x60;



OUTPUT FORMAT:
*2048x1152x60

5. Press the knob to confirm, finish the choice of resolution.



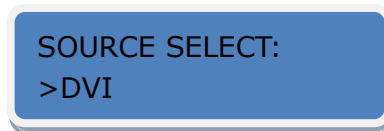
OUTPUT FORMAT:
>2048x1152x60

6. System Setup and Operation

How to Realize Single Image Switching

How to Realize Single Image Switching

Boot the system default CV1 to the current input source (key light and scintillation), if need seamless switching other source such as DVI, direct light touch DVI key, LCD screen display as follows



Choose DVI buttons, button lamp CV1 destroy, and DVI key light and shining, can realize single picture of input signal source switching (input signal source by original CV1 switching to DVI).The same method can be switched CV2, CV3, SVID, YPbPr, VGA, SDI.

Note

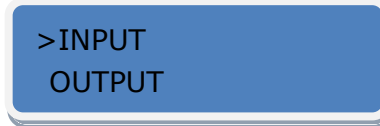
Seamless switch: means signal switch will not appear any flash point, black, shaking or delay

6. System Setup and Operation

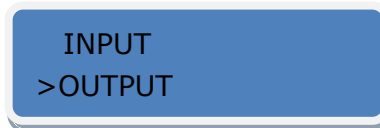
How to Set up the Size and Position of the Single Image.

How to Set up the Size and Position of the Single Image

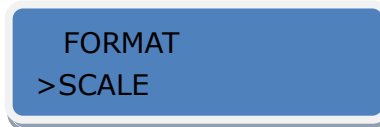
1. Press MENU button, enter the menu option.



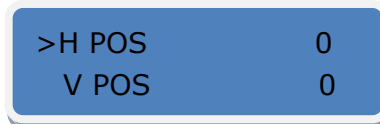
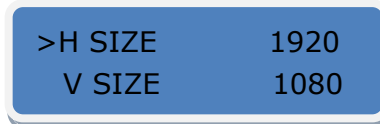
2. Rotate the knob ,choose the 【 OUTPUT 】 option.



3. Press the knob to confirm, rotate the knob again, choose 【SCALE】 option.



4. Press the knob to confirm, enter 【SCALE】option, again rotate the knob, and set the required value, after finished, press the knob to confirm.



5. If the operation wrong, or want to factory resetting, enter 【SCALE】 option, choose "RESET" to recover factory **RESET**.



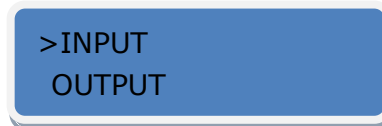
6. System Setup and Operation

How to Set up the PIP

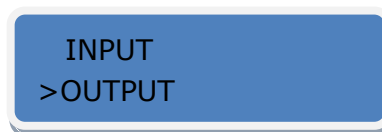
How to Set up the PIP

Boot the system default for single image output, user can set PIP through the following steps:

1. Press MENU button, enter the menu option.



2. Rotate the knob, choose the **【OUTPUT】** option.



3. Press the knob to confirm, rotate the knob again, choose **【PIP】** option.



4. Press the knob to confirm, and enter the next level menu, choose **【PIP】** ON, and open PIP mode.

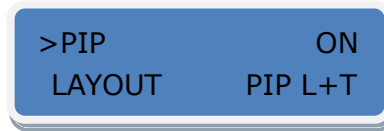


6. System Setup and Operation

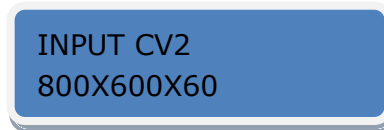
How to Choose the Signal Source in PIP

How to Choose the Signal Source in PIP

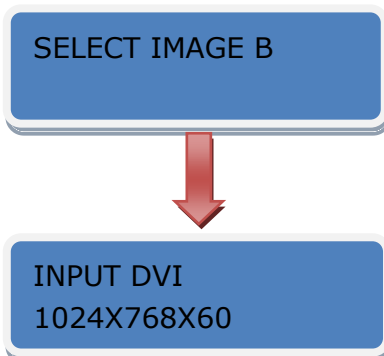
1. Open the PIP mode, please refer to: [How to Set Up the PIP](#).



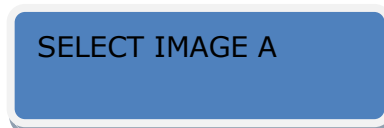
2. Choose the input source of main channel, directly press CV1, CV2, CV3, SVID, DVI, YPbPr, VGA, SDI are chosen as the main channel, for example choose the CV2:



3. Press IMAGE1/IMAGE2 button, the key lights, choose IMAGEB signal source, press the CV1,CV2,CV3,SVID,DVI,YPbPr,VGA,SDI directly as the IMAGEB channel for example DVI



4. Press IMAGE1/IMAGE2 button, the KEY light off , can re-choose the main signal:



Note

IMAGEA and IMAGEB can choose the same input signal source, namely the two screen can show the same picture.

6. System Setup and Operation

How to Set up the Size and Position of PIP

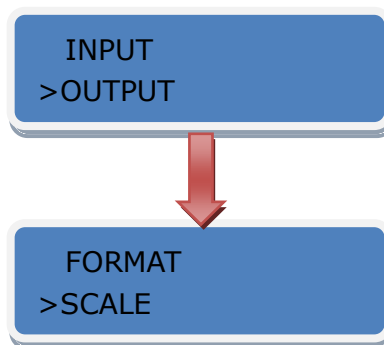
How to Set up the Size and Position of PIP

1. In the PIP mode, please refer to: [How to Set Up the PIP](#).

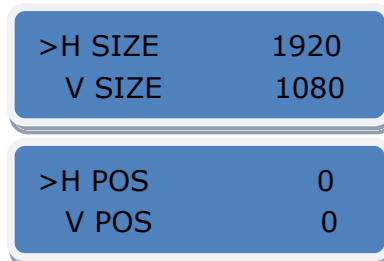


2. Press IMAGE1/IMAGE2 button, the key lights, select IMAGEB source key lights and shines, set IMAGEB image size and position:

Press MENU button, rotate the knob, choose **【OUTPUT】**, and choose **【SCALE】** in the next level menu:



According to user needs, set IMAGEB size and position are set:



3. After completion of the setting of IMAGEB, again light touch IMAGE1/IMAGE2 key, light is off, then IMAGEA source key light and shining, set IMAGEA size and position, the operation is same with IMAGEB;

Note

Can also via MENU → OUTPUT → SCALE to set H SIZE, V SIZE, H POS, V POS.

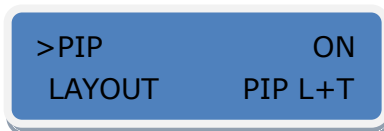
4. Through the above steps, can complete the master picture image size and position setting.

6. System Setup and Operation

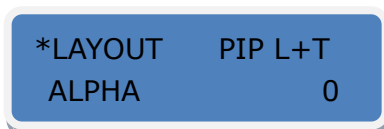
How to Set up the Layout of PIP

How to Set up the Layout of PIP

1. Under PIP mode, please refer to: [How to Set Up the PIP](#).



2. Rotate the knob, choose LAYOUT option, press the knob to confirm.



3. Rotate the knob, choose three PIP LAYOUT, effects were into below:

PIP L+T



PBP L+R



PBP T+B

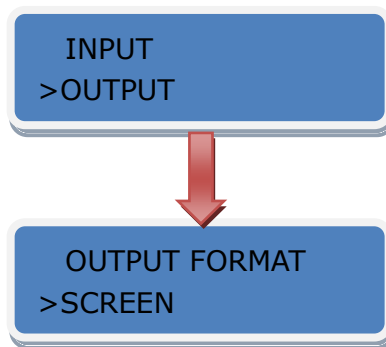


6. System Setup and Operation

How to Realize the Screen Parameter and Full Screen Switching

How to Realize the Screen Parameter and Full Screen Switching

1. Press MENU button, rotate the knob, choose **【OUTPUT】**, choose **【SCREEN】** option:



2. According to user needs, set the image size and position:



3. After setting, choose SCREEN SIZE and or FULL SIZE in **【MODE】** in **【SCREEN】**, and realize the SCREEN SIZE and or FULL SIZE switching.

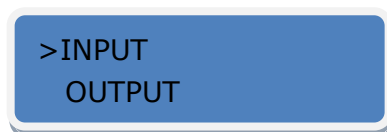


6. System Setup and Operation

How to Realize the Brightness Adjusting

How to Realize the Brightness Adjusting

1. Press MENU button, rotate the knob, choose **【INTPUT】** to enter:



2. Rotate the knob, enter **【BRIGHTNESS】** option, press the knob to confirm, rotate the knob to adjust the brightness value.

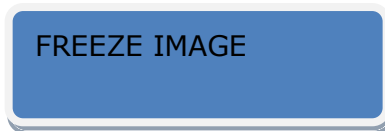


6. System Setup and Operation

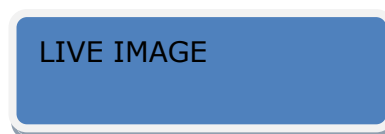
How to Realize the Freeze and Live Image Switching

How to Realize the Freeze and Live Image Switching

1. Press FREEZE button, freeze the current live image:



2. Press FREEZE button again, the current freeze image is switched to live image:



Note

Can choose FREEZE IMAGE or LIVE VIDEO via
MENU → OUTPUT → DISPLAY MODE
→ MODE

Note

Under the PIP mode, IMAGE A at the same time
be frozen or live.

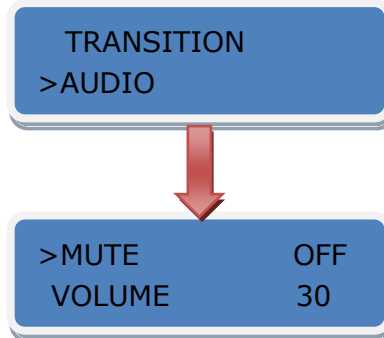
6. System Setup and Operation

How to Set Up the Volume

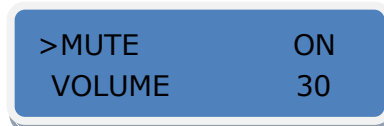
How to Set Up the Volume

Under single image mode, can be directly through the following steps:

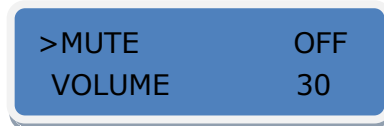
1. Press MENU to enter menu option, rotate the knob, choose **【AUDIO】** to enter the next level menu, and choose **【MUTE】** option.



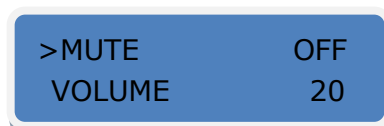
2. Rotate the knob, choose ON, start MUTE function, LCD displays:



3. Rotate the knob again, choose OFF Mute function closed.

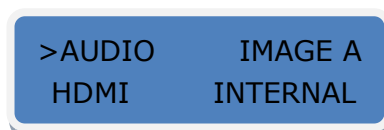


4. Rotate the knob to adjust VOLOMU value to change the audio volume value, for example, turn it down to 20:



In PIP mode, please refer to: [How to Set Up the PIP](#). First, choose audio input source for IMAGE A input or IMAGE B sub- input, specific steps are as follows:

Choose IMAGE A or IMAGE B input via MENU→ AUDIO→ AUDIO IN source. Other operations are same with single screen mode, just repeat the step1 to 4.



6. System Setup and Operation

How to Set Up the Volume

Note

The IMAGE1/IMAGE2button can also switch the audio channel.

6. System Setup and Operation


How to Set Up the Playlist

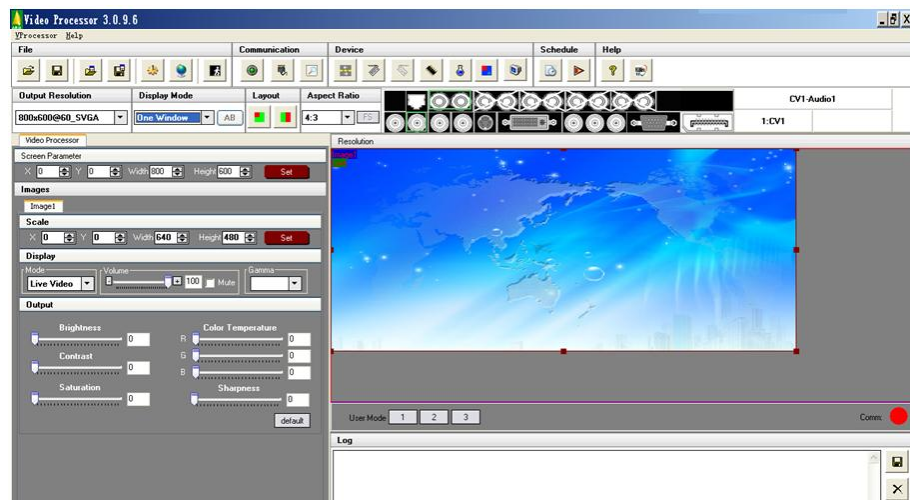
How to Set Up the Playlist

Users can set up VSP 516S in “Device Schedule” in PC software to play the appointed input video automatically in appointed time and operation of single or dual channels, also can set up the ratio and position.

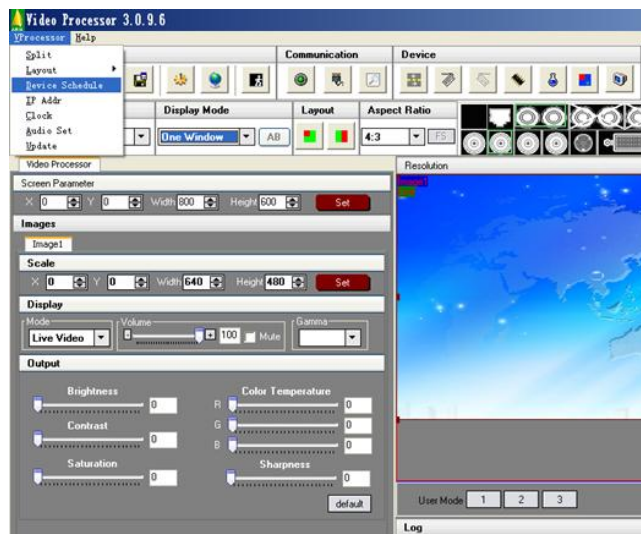
Users can setup up to 10 timing operation in the schedule.

1. First, make sure the VSP 516S has been connected to the PC software.

2. Double click the VSP 516S software,  software interface is shown as follows:



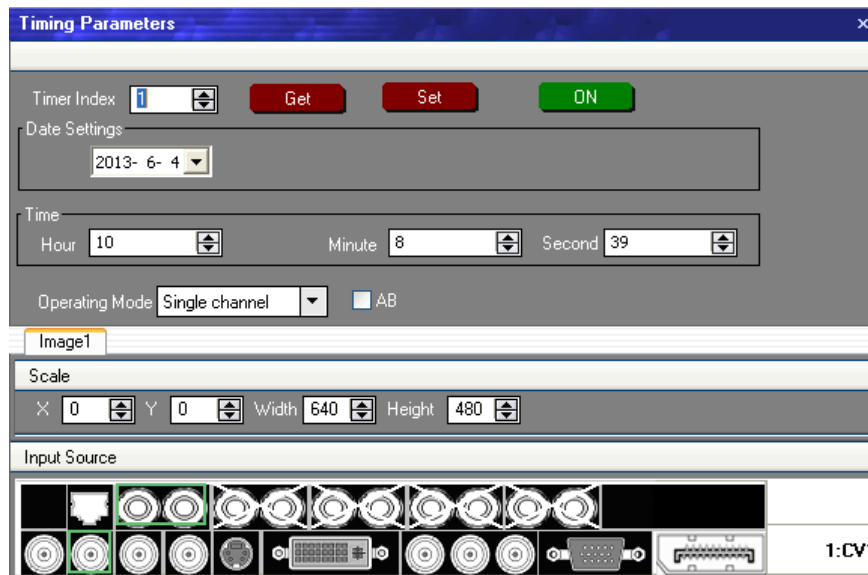
3. Click the 【VP Processor】 option on the top left, then show the drop-down menu as follows:



4. Choose “Device Schedule” option in the drop-down menu:

6. System Setup and Operation

How to Set Up the Playlist



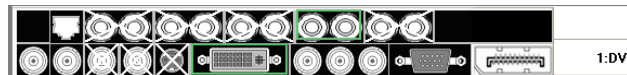
Timer Index: Timer index, currently , users can setup up to 10 timing operation in the schedule.

Date Settings: The date timing play appoint.



Time: The time timing play appoint.

Operating Mode: User can choose single or dual channels.

Scale: User can set the image ratio and position for Image 1 and Image 2 (Dual channels).

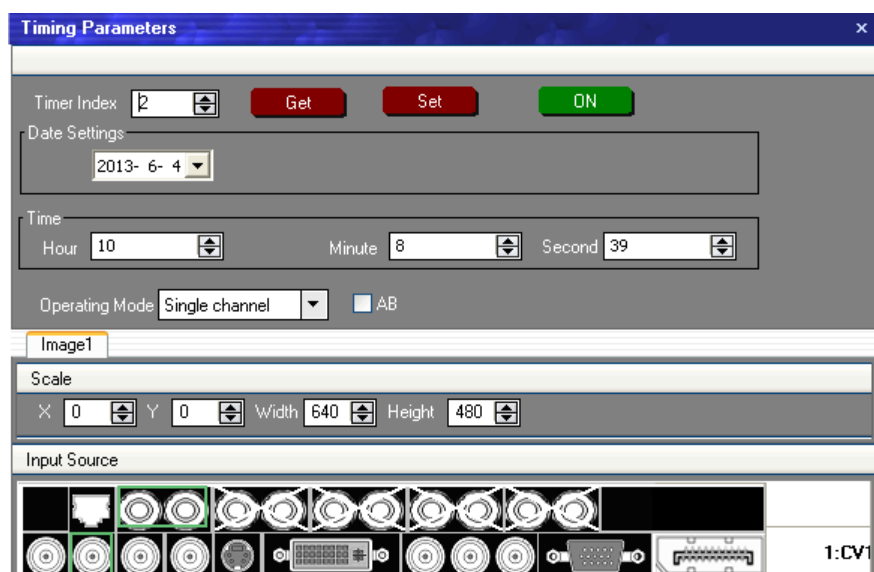


Automatic play signal source selection.

5. Click set icon  to save after setting.
6. If need to get certain timing content, input the timer index, and click the get icon  to see the specific content. For example: choose timer index 2, show the interface as follows:

6. System Setup and Operation

How to Set Up the Playlist



7. The software default "Device Schedule" function close, user should

click on icon  to realize automatically play.

6. System Setup and Operation

How to Use Black

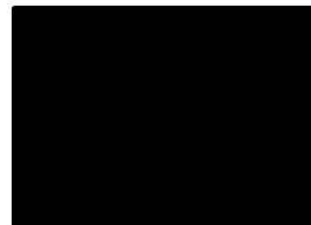
Black descriptions:

Black signal realizes one-key-touch to a black screen.

Mixing-100 Black provides effect processing on Program output, Black use fade in fade out effect. Operation is as below:

1. Just press BLACK button, then Program output turns to BLACK with fade in fade out effect.

As shown below:




6. System Setup and Operation

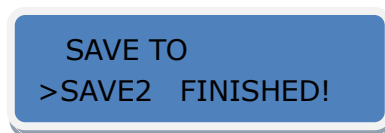
How to Save the Parameter

How to Save the Parameter

Save user mode to the customer for different scene directly call; leave out the edit operation inconvenience, VSP 516S provides ten save preferences.



1. Press  button, the key lights, the SAVE function open.
2. Rotate the knob, and choose the position that will save, press the knob to confirm.
3. The figure: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 down of the buttons means SAVE1~10, you can also press arbitrary button to save. For example, save to SAVE2, press the button2, the LCD panel will show as follows after finish saving.




6. System Setup and Operation

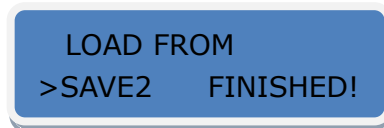
How to Load the Saved Parameter

How to Load the Saved Parameter

Save user mode to the customer for different scene directly call; leave out the edit operation inconvenience, VSP 516S provides ten save preferences;



1. Press  button, the key lights, the LOAD function open.
2. Rotate the knob, and choose the position that will load, press the knob to confirm.
3. The figure: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 down of the buttons means LOAD SAVE1~10, you can also press arbitrary button to load. For example, load from SAVE2, press the button2, the LCD panel will show as follows after finish loading.



6. System Setup and Operation

How to Achieve Multiple Cascade

How to Achieve Multiple Cascade

The working principle of VSP 516S multiple cascade is assigned the front signal to corresponding VSP 516S video processors, again synchronous external timing through processor, and wholly enlarge the picture and intercept corresponding display area according to the corresponding control area to achieve the function of integral display a complete picture, through the central control or computer, it can realize the synchronous broadcasting and at the same time seamless switching.

Here, we will illustrate the operation. For example, the LED display is $2400 * 1024$, and now we will cascade with 2 VSP 516S, specific steps are as follows:

1. Connection and Setting

- (1) Connect the DVI signal to DVI interface of the two VSP 516S through DVI distributor (DXP 0108).
- (2) Divide the LED display into two parts, respectively for $1152*1024$ and $1248*1024$, and connect the DVI output interface of the two VSP 516S to two sending cards.
- (3) Press **【DVI】** button to choose DVI input signal for the two VSP 516S, and set both the VSP 516S output resolution for $1280 * 1024$.

2. Multiple Cascade

- (1) Press **【SCALE】** button of the first VSP 516S, and scale the screen to the actual points.
Choose the width **【> H SIZE】** in menu option, and set the width for 1152 through number key or rotate the knob, press the knob to confirm. Then rotate the knob, and choose the height **【> V SIZE】** in menu option, and set the height for 1024 through number key or rotate the knob, press the knob to confirm. If input the wrong value, press **【MENU】** key to exit. The same method, set the width and height of

6. System Setup and Operation

How to Achieve Multiple Cascade

the second VSP 516S for 1248*1024.

- (2) Choose **【SPLIT】** option of the first VSP 516S through MENU button, rotate the knob to choose **【*SPLIT】** option, confirm and choose **【ON】** , and start SPLIT function.

Set the following values through number key or rotate the knob (The operations are same with **【SCALE】**).

Set the screen total width **【> H TOTAL】** for 2400 (The total width points of the two screens).

Set the screen total height **【> V TOTAL】** for 1024 (Horizontal split, so the height is unchanged).

Set the screen width **【> H SIZE】** for 1152 (The screen width of VSP 516S).

Set the screen height **【> V SIZE】** for 1024 (The screen height of VSP 516S).

Set the horizontal position **【> H POS】** for 0 (The horizontal position of VSP 516S).

Set the vertical position **【> V POS】** for (The vertical position of VSP 516S).

- (3) The same method, start the **【SPLIT】** function for the second VSP 516S.

Set the following values through number key or rotate the knob (The operations are same with **【SCALE】**).

Set the screen total width **【> H TOTAL】** for 2400 (The total width points of the two screens).

Set the screen total height **【> V TOTAL】** for 1024 (Horizontal split, so the height is unchanged).

Set the screen width **【> H SIZE】** for 1248 (The screen width of VSP 516S).

Set the screen height **【> V SIZE】** for 1024 (The screen height of

6. System Setup and Operation

How to Achieve Multiple Cascade

VSP 516S).

Set the horizontal position 【> H POS】 for 1152 (The horizontal position of VSP 516S, that is the screen width of the first VSP 516S).

Set the vertical position 【> V POS】 for (The vertical position of VSP 516S, that is horizontal split, so the vertical value is unchanged).

3. Save

Press 【SAVE/PIP1】 button, the key lights, start the SAVE function.

Select the location that need to save, light touch the corresponding key, such as save to SAVE1, light touch CV1/1 key can complete parameter preservation.

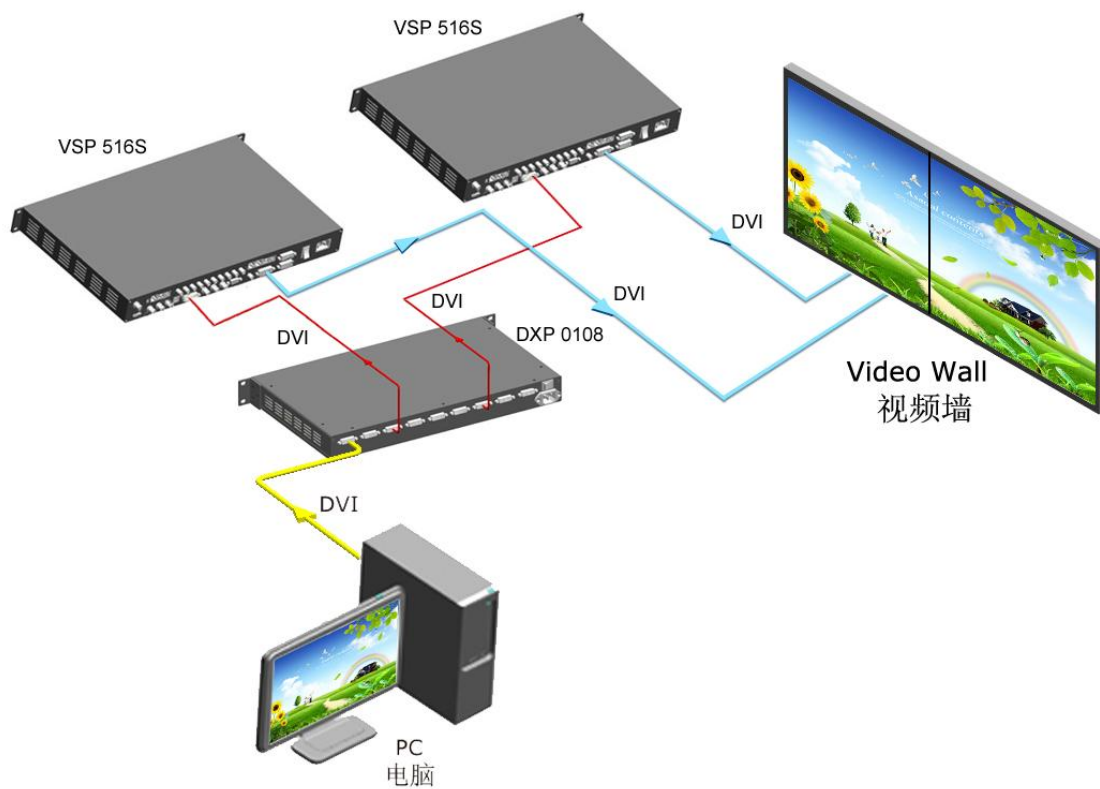
It is automatically load SAVE1, if save to other channel, please press

【LOAD/PIP2】 key and press corresponding key to load the saved parameter.

4. Sketch

6. System Setup and Operation

How to Achieve Multiple Cascade



7. Common Questions and Solutions

In This Chapter

This chapter provides the common questions and solution for the video processor. The following topics are provided:

- No Output in LED Display
- Flash Point in LED Display Output
- LED Display only Shows Part of the Image
- No Display in the Second Half Part of LED Display
- Left Screen Appears Two Black Sides
- All Key Lights Light on Simultaneously
- Color Abnormal When Input SDI Signal
- Spotted Image or Freeze When Switch CV Signal
- If DP Port Can Connect DVI or HDMI Signal

No Output in LED Display

Confirm If There is Any Input Signal

Press【MENU】button to find "INPUT" and knob into the "INPUT RES INFO" to see whether the input signal is normal, suggested the "NO INPUT" signal does not come in, check the front-end signal lines, and please note to do dual display or extended in computer ; you can enter other format signals to view in the same operation.

Confirm If Signal Output

Find a belt VGA input (best for DVI) display, connect to the corresponding output port of processor, and check whether the signal is correct on the monitor. If not display properly, please check whether there is input signal, or if input wire interface is taken tight, output wire interface is picked up tightly. If display normally, check if sending card is normally working or need to replace sending card test.

Flash Point in LED Display Output

Confirm If Monitor Output is Normal

Find a belt VGA input (best for DVI) display, connect to the corresponding output port of processor, and check whether the signal is correct on the monitor. If display normally shows and no flash point, please check whether DVI outlets put tight or replace to DVI line of sending card. If display flashes point, please judge if input signal, wire, and interface are normal.

LED Display Only Displays Part of the Image

Signal Needs to Scale

Press **【SCALE】** button in the processor and knob to adjust the actual screen size of the screen, combined with button **【POSITION】**, including the "width", "height" and "starting position", remember to touch the knob to confirm.

No Display in the Second Half Part of LED Display

Resolution is Insufficient

Please make sure the points of the screen width and height, choose the resolution to be bigger than screen width by button **【MENU】** under OUTPUT RES, and touch knob to confirm.

Sending Card Can not Take Lower Part

TS 802 can control the max horizontal resolution 2048, and vertical resolution 640. Each CAT5 output is 320 pixels.

Left Screen Appears Two Black Sides

Adjust DE Deviation

This phenomenon needs to adjust the DVI output and DE migration of the processor, through the **【MENU】** to find "OUTPUT" and find the corresponding output name, such as "DVI1 OUT ADJUST", and find "DVI1 DE" again, make an adjustment for corresponding horizontal and vertical DE, please remember to save to the corresponding channel after setting up, save to SAVE1 by default.

All Key Lights Light on Simultaneously

Check If Dial Switch is Normal

Shut the power, check if the red dial switches near CV is upward. Reboot if it faces down, and reboot. The function of the red dial switched is mainly upgraded.

Color Abnormal When Input SDI Signal

Adjust SDI Input Settings

The VSP 516S may appear color abnormal when input SDI signal, it needs adjust the SDI input setting, specific operations are as follows:

Press "MENU" key and select "INPUT" option, select "SDI ADJUST" by rotate the knob, and adjust H POS value through rotate the knob, it need not to save after setting.

Spottted Image or Freeze When Switch CV Signal

Normal Phenomenon

This is the normal phenomenon, you can set consistent CV input resolutions to avoid spotted image, but this is cut seamless switching, without fade in fade out effect.

If DP Port Can Connect DVI or HDMI Signal

DP Port Can Only Connect DP Signal

DP port can only connect DP signal, please choose graphics card with DP output port. If need 2 DVI or HDMI, you can choose HDMI to DP, SDI, VGA converter for signal switching.

A. Specification

BNC Input	
Number of Inputs	3
Supported Standards	PAL/NTSC
Signal Level	1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm
Multiplex	480i,576i
S-Video Input	
Number of Inputs	1
Supported Standard	PAL/NTSC
Signal Level	Y:1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm U/V:0.7Vpp±3dB 75ohm
Multiplex	480i,576i
YPbPr BNC Input	
Number of Inputs	BNC*3
Supported Standard	analog signals
Signal Level	Y:1Vpp±3dB(0.7V Video+0.3v Sync)75 ohm Pb/Pr:0.7Vpp±3dB 75 ohm
Supported Resolution	480i,576i,480p,576p,720p50,1080i50,1080p50 1080i50,1080i60
VGA DB15 Input	
Number of Inputs	1
Connector	Standard DB15 Socket
Supported Standard	VGA-UXGA
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level: 300mV Sync-tip: 0V
Supported Resolution	1024*768*60, 800*600*60, 640*480*60, 1280*720*60, 1280*800*60, 1280*960*60, 1280*1024*60, 1440*900*60, 1400*1050*60, 1600*1200*60, 1680*1050*60, 1920*1080*60, 1366*768*60
DVI Input	
Number of Outputs	1
Connector	Standard DVI-I socket
Supported Resolution	SMPTE : 625/25 PAL, 525/29.97 NTSC, 625/50p PAL, 525/59.94p NTSC 720p50,720p59.94/60,1080i50,1080i59.94/60 VESA: 800×600×60Hz, 1024×768×60Hz, 1280×768×60Hz, 1280×1024×60Hz, 1600×1200×60Hz, 1920×1080×60Hz, 1920×1080×50Hz
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth

Format Standard	HDMI 1.3
DP (Displayport) Input	
Number of Inputs	1
Connector	Standard
Supported Resolution	Support resolution: WQXGA + (1920 x 1200), and color depth: 30/36 bit (each primary 10/12 bit)
Supported Bandwidth	10.8Gb/s
Format Standard	DP1.1
3G SDI Input	
Number of Inputs	1
Connector	BNC
Supported Standard	SMPTE 259M SD-SDI 270 Mbit/s 480i, 576i SMPTE 292M HD-SDI 1.485 Gbit/s 720p, 1080i SMPTE 424M 3G-SDI 2.970 Gbit/s 1080p
Balance	Belden 1694A 100m self-adaptive 3G,200m self-adaptive 1.485G,350m self-adaptive 270Mbps
Audio Input	
Number of Inputs	10
Connector	Standard RCA Socket
Audio Standard	48Kbps 24bit
DVI Output	
Number of Outputs	2
Connector	Standard DVI-I Socket
Signal Level	TMDS pw, 165MHz bandwidth
Supported Resolution	VESA: 800x600x60Hz, 1024x768x60Hz, 1024x768x75Hz, 1280x720x60Hz, 1280x720x50Hz, 1280x768x60Hz, 1280x800x60Hz, 1280x1024x60Hz, 1360x768x60Hz, 1366x768x60Hz, 1400x1050x60Hz, 1440x900x60Hz, 1600x1200x60Hz, 1680x1050x60Hz, 1920x1080x60Hz, 1920x1080x50Hz, 1920x1200x60Hz, 2048x1152x60Hz, 2560x812x60Hz, 2560x816x60Hz
VGA Output	
Number of Outputs	1
Connector	Standard DB15 Socket
Supported Resolution	VESA: 800x600x60Hz, 1024x768x60Hz, 1024x768x75Hz, 1280x720x60Hz, 1280x720x50Hz, 1280x768x60Hz, 1280x800x60Hz, 1280x1024x60Hz, 1360x768x60Hz, 1366x768x60Hz, 1400x1050x60Hz, 1440x900x60Hz, 1600x1200x60Hz, 1680x1050x60Hz, 1920x1080x60Hz, 1920x1080x50Hz, 1920x1200x60Hz, 2048x1152x60Hz, 2560x812x60Hz, 2560x816x60Hz
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm

	black level: 300mV Sync-tip: 0V
Audio Output	
Number of Outputs	1
Connector	Card faucet , Standard 1/4 Socket
Audio standard	48Kbps 24bit
Function	
Input channel configuration	Support each input channel signal programming configuration
PIP	Support PIP、PBP for any two inputs
Audio sync switch	support
Extras	
Communication	RS232 USB TCP/IP
Power Supply	85-264V 2.1A IEC-3
Working Environment	0°C~45°C
Stored Environment	10% to 90%
Product Warranty	3-year parts and labor warranty

B. Software Upgrade

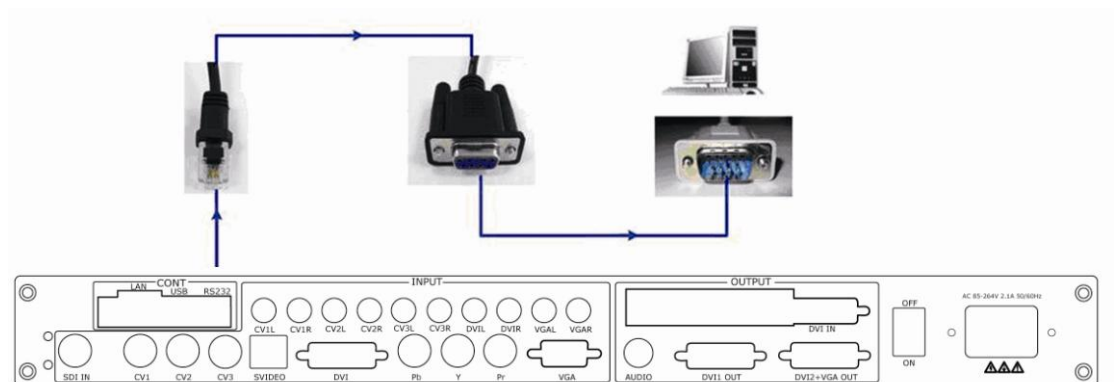
IP Software Download Instruction

Turn off the power, take the two coding switch to “ON” state as below:

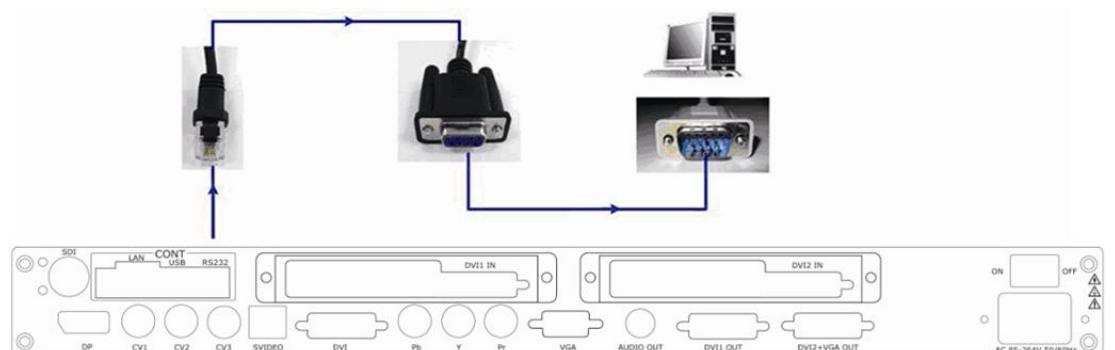


Connect one side of the RJ11 download line to the RS232 on the video processor, and the other side being connected to the serial port on the PC.

VSP 516S with audio:



VSP 516S with two sending cards:



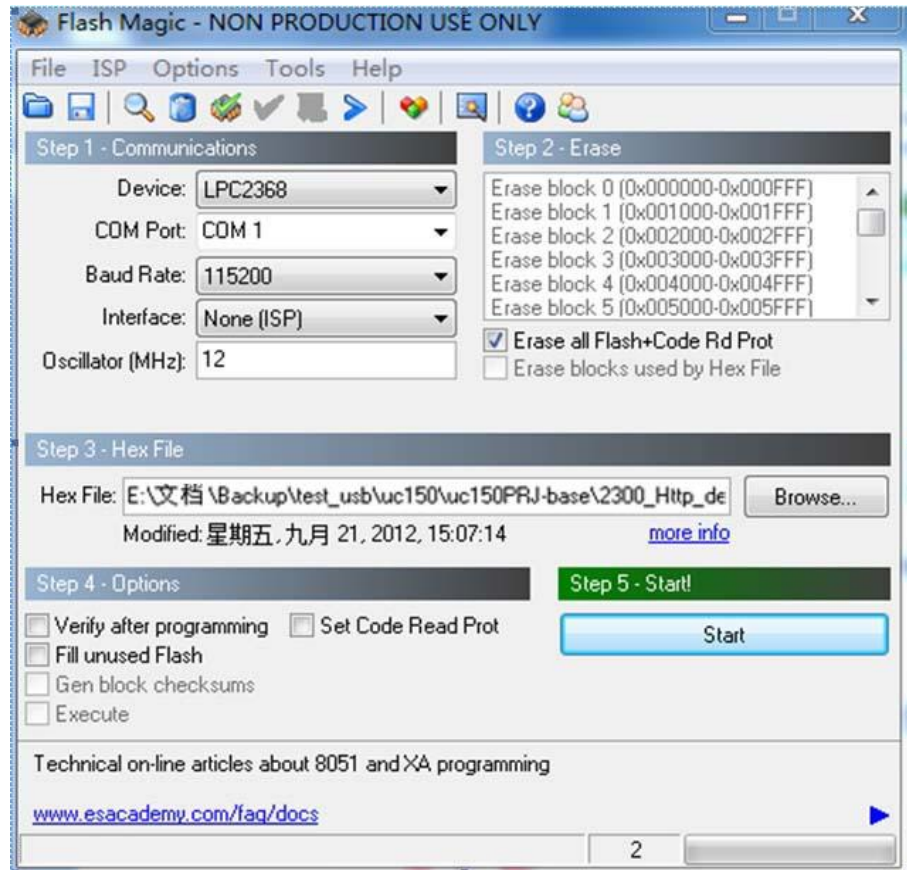
Double click Flash Magic to run flash magic, setting as below:

Firstly, users can choose the right serial port, set the Boud rate to 9600, choose LPC2368, and to load the aim document (hex file) for IP board upgrading;

Secondly, tick the item below to confirm.



Finally, click the “start” button.



After download, exit the program, turn off the power, tack the two coding switch back, as below restart the equipment power, check if the equipment work normally.



Note

Flash Magic download website:

<http://www.flashmagictool.com/download.html&d=FlashMagic.exe>

Mainboard Program Upgrade

Mainboard program is upgraded via webpage, specific steps are as follows:

1. Connect VSP 516S and computer with cable.
2. Start the network function, specific steps are as follows:
MENU--SYSTEM -- ETHERNET -- NETWORK, select ON, and check the IP address of the equipment, confirm if it is consistent with the computer, such as 192.168.0.***, take 192.168.0.100 for example.
3. Open the webpage, input IP: 192.168.0.100 (this is the default state, if the IP address is changed, the IP address input should be consistent with the changed IP address), then input the user name: admin, password: rgblink123, click OK.
4. Enter the webpage, click "Fireware Upgrade" and load the page, as shown:

5. Click "Browse...", choose mainboard directory path, the format should be "FVB", then select "Update" to load the program.

Device Server Page

Upgrade Fireware

You can select files from your local PC and upload them to device. Files will upgrade device

Select a File to upgrade device

D:\目标代码\SDP8028\铁观音_黄金桂_Video(0.24).fvb

浏览...

Update

Attention:

upgrade SDI Fireware: filename extension is "fsb"

upgrade Video Fireware: filename extension is "fvb"

[RGBlink \(Xiamen\) Corporation Ltd.](#)

6. If display "UPDATE FIREWARE..." in the device's LCD screen, it means it's in loading program status.




7. If display "UPDATE SUCCESS! PLEASE RESTART!"



- Or display "Video Fireware Update Success!" on webpage, it means the program is loaded successfully, otherwise, it needs to reload.

Device Server Page



Upgrade Firmware

You can select files from your local PC and upload them to device. Files will upgrade device

Select a File to upgrade device

Video Firmware Update Success!

Attention:

upgrade SDI Firmware: filename extension is "fsb"

upgrade Video Firmware: filename extension is "fvb"

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- Restart the device and check the running state, then end the mainboard program update.

Installing an Optional SDI Input Board

The VSP 516S can be modified to install or remove optional boards that change the input and/or output formats that the processor can process. We will introduce “Installing an Optional SDI Input Board” in the following parts, specific steps are as follows:

1. Opening the Processor
2. Installing an Optional SDI Input Board
3. Closing the Processor

Part 1: Open the Processor

Specific steps are as follows:

1. Disconnect the AC power cord from the VSP 516S to remove power from the unit.

Warning: To prevent electric shock, always unplug the VSP 516S from the AC power source before opening the enclosure.

2. Disconnect all signal and control cables.
3. Remove the 7 screws on the top cover (Figure 1).



(Figure 1)

4. Remove all the screws on the back panel (Figure 2).



(Figure 2)

5. Lift the top cover and back panel.

Caution: Do not touch any electronic components inside the VSP 516S. Doing so could damage the processor. Electrostatic discharge (ESD) can damage IC chips even though you cannot feel it. You must be electrically grounded before proceeding with maintenance. A grounding wrist strap is recommended.

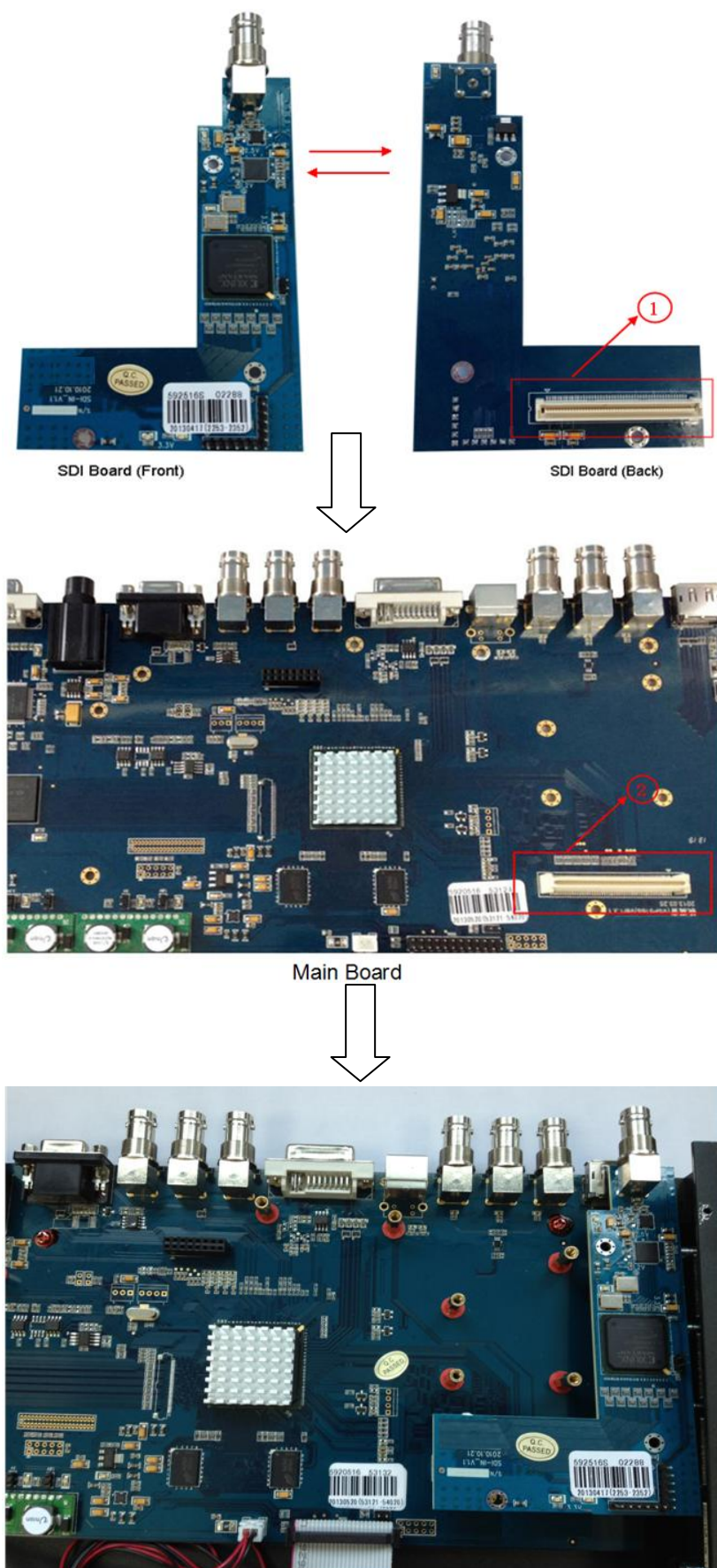
6. Perform the desired maintenance procedure. See “Installing an Optional SDI Input Board” in Part 2.

Part 2: Installing an Optional SDI Input Board

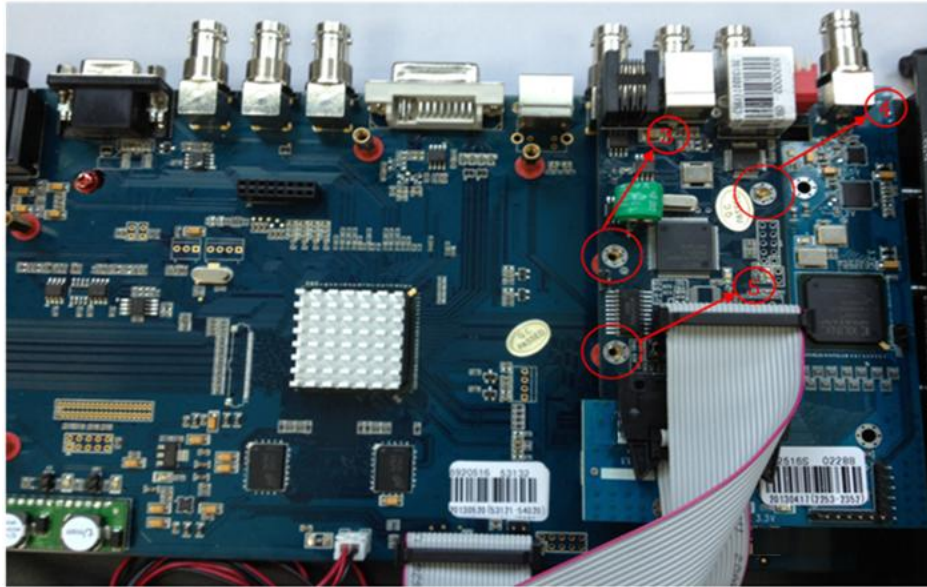
Install an optional SDI input board in the VSP 516S as follows:

Warning: Changes to electronic components must be performed by authorized service personnel only.

1. Open the processor. See “Opening the Switcher” in Part 1.
2. On the main board port 2, locate SDI input board port 1, align and gently apply pressure to mate input board with main board, as shown in Figure 3.



3. Locate the Gigabit network board port 3, 4, 5 into the main board, tighten the screws, as shown in Figure 4.



(Figure 4)

4. Close and reinstall the processor, see “Closing the Processor” in Part 3.

Part 3: Closing the Processor

Specific steps are as follows:

1. Secure the back panel with the screws.
2. Replace the top cover on the VSP 516S.
3. Fasten it with the screw that were removed in “Opening the Processor” part.
4. If desired, reconnect all cables.